

JPRS 79727

23 December 1981

USSR Report

MILITARY AFFAIRS

No. 1640

FBIS

FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

23 December 1981

USSR REPORT MILITARY AFFAIRS

No. 1640

CONTENTS

MILITARY AND POLITICAL ISSUES

Economics and Military Power (S. Bartenev; SOVIET MILITARY REVIEW, Jul 81)	1
Warsaw Pact/CEMA Ties Discussed (N. Katkov; SOVIET MILITARY REVIEW, Jul 81)	5

MILITARY SCIENCE, THEORY, STRATEGY

Role of Second Echelon Discussed (M. Loginov; SOVIET MILITARY REVIEW, Jul 81)	9
Prediction in Warfare Discussed (M. Kiryan; SOVIET MILITARY REVIEW, Aug 81)	12
Encirclement Operations in Great Patriotic War Described (N. Kobrin; SOVIET MILITARY REVIEW, Aug 81)	16
Book Review: Tanks and Tank Forces /TANKI I TANKOVYYE VOYSKA/ (L. Lopukhovskiy; SOVIET MILITARY REVIEW, Aug 81)	20
Readers' Questions on Air Defense Answered (SOVIET MILITARY REVIEW, Oct 81)	22

ARMED FORCES

Bio Data on Adm A. I. Berg, Cyberneticist (A. Sholokhov; SOVIET MILITARY REVIEW, Jul 81)	24
Regulations, Training, and Discipline (A. Burykh; SOVIET MILITARY REVIEW, Jul 81)	27
Reserve Officer Training Discussed (A. Antonov; SOVIET MILITARY REVIEW, Jul 81)	30

WW II Battle for Smolensk Described (A. Galitsan; SOVIET MILITARY REVIEW, Jul 81).....	32
Army Gen A. P. Beloborodov Reminisces in Interview (Afansy Pavlentyevich Beloborodov; SOVIET MILITARY REVIEW, Jul 81).....	35
Developing and Using Natural Abilities (I. Bulin; SOVIET MILITARY REVIEW, Sep 81).....	39
Night Operations in Great Patriotic War Described (Z. Shutov; SOVIET MILITARY REVIEW, Sep 81).....	42
Formation of 'Soviet Guards' Recalled (V. Mikhaylov; SOVIET MILITARY REVIEW, Sep 81).....	45
Role of Senior NCOS Discussed (D. Petukhov; SOVIET MILITARY REVIEW, Oct 81).....	47
Role of Socialist Emulations Discussed (V. Petrov; SOVIET MILITARY REVIEW, Oct 81).....	49
AIR FORCES	
Attack Phase of Aerial Combat (G. Mikhailov; SOVIET MILITARY REVIEW, Jul 81).....	51
Pilot Combat Training Discussed (P. Bazanov; SOVIET MILITARY REVIEW, Aug 81).....	54
History of Helicopter Regiment Discussed (V. Lebedev; SOVIET MILITARY REVIEW, Aug 81).....	57
Importance of Pilot's Selfconfidence Discussed (Ye. Besshchetnov; SOVIET MILITARY REVIEW, Aug 81).....	59
GROUND FORCES	
Helicopter Support of Ground Actions Discussed (G. Losev; SOVIET MILITARY REVIEW, Aug 81).....	61
Assault Crossing Described (I. Osipenko; SOVIET MILITARY REVIEW, Aug 81).....	63
Tank Underwater Rescue and Recovery Described (M. Starostin; SOVIET MILITARY REVIEW, Aug 81).....	66
Tank Units: Attack in the Rear Exercise (V. Andrianov; SOVIET MILITARY REVIEW, Sep 81).....	69
Questions Answered on Combat Terms (SOVIET MILITARY REVIEW, Sep 81).....	72

Visibility as a Tactical Device Described (Yu. Chernyshov; SOVIET MILITARY REVIEW, Oct 81)	75
Motorized Rifle Units: Battalion Coastal Defense Exercise (V. Smirnov; SOVIET MILITARY REVIEW, Oct 81)	78
Hand Grenades Past and Present Described (N. Yelshin; SOVIET MILITARY REVIEW, Oct 81)	81
Training in Grenade Throwing Discussed (V. Shchegolyev; SOVIET MILITARY REVIEW, Oct 81)	84
AIR DEFENSE FORCES	
Officer's Tactical Skill in Air Defense Discussed (G. Suleymanyan; SOVIET MILITARY REVIEW, Jul 81)	86
Role of Command Post Group Leader Discussed (V. Pimenov; SOVIET MILITARY REVIEW, Oct 81)	88
NAVAL FORCES	
Training Level(s) Discussed (N. Khovrin; SOVIET MILITARY REVIEW, Jul 81)	90
Defense of Naval Bases in WW II (A. Basov; SOVIET MILITARY REVIEW, Jul 81)	93
ASW Training Described (G. Yefremov; SOVIET MILITARY REVIEW, Sep 81)	96
Shore Training Described (N. Yermolayev; SOVIET MILITARY REVIEW, Sep 81)	99
Naval Air Defense Methods Discussed (L. Yaskov; SOVIET MILITARY REVIEW, Oct 81)	101
LOGISTICAL SERVICES AND SPECIAL TROOPS	
Technical Servicing of Motorized Rifle (Tank) BTN in Combat (G. Petrovskiy; SOVIET MILITARY REVIEW, Oct 81)	104
PERCEPTIONS, VIEWS, COMMENTS	
Comments on the Arms Race and the LDCS (G. Petrovskiy; SOVIET MILITARY REVIEW, Jul 81)	107
Views of U.S. Activities in Asia (A. Shevchenko; SOVIET MILITARY REVIEW, Aug 81)	110
Western Tank Armaments Discussed (D. Ryazantsev; SOVIET MILITARY REVIEW, Sep 81)	113

Views on Soviet, Western Policies in Africa (A. Gromyko; SOVIET MILITARY REVIEW, Sep 81)	116
Views Western 'Military Theory', Strategy (A. Skrylnik; SOVIET MILITARY REVIEW, Sep 81)	121
Views of Mediterranean Basin Security (V. Yefremov; SOVIET MILITARY REVIEW, Sep 81)	124
Developments in U.S., NATO Artillery Discussed (N. Kharitonov; SOVIET MILITARY REVIEW, Oct 81)	127
Class Origins of Wars Discussed (S. Tyushkevish; SOVIET MILITARY REVIEW, Oct 81)	130
Article Views U.S., NATO Military 'Intentions' (N. Gusev; SOVIET MILITARY REVIEW, Oct 81)	134
Views on U.S. Defense Budget (A. Dilanyan; SOVIET MILITARY REVIEW, Oct 81)	137

MILITARY AND POLITICAL ISSUES

ECONOMICS AND MILITARY POWER

Moscow SOVIET MILITARY REVIEW in English No 7, Jul 81 pp 14-17

[Article by Col S. Bartenev, Cand. Sc. (Economy): "The Economy and Military Might"]

[Text]

A state's military potential is determined by the strength of its economic, socio-political and spiritual foundations, and by the might of its armed forces. The economic factor is of special significance. Even before the advent of firearms the outcome of a war depended in many respects on the production of cold steel weapons, i.e. on the economic aspect of warfare. This dependence increased still more conspicuously as firearms appeared on the battlefield. However, up to World War I (1914-18), war needs were generally satisfied by the stocks of weapons accumulated in peacetime. But that war demonstrated the specifically new relationship between war and the economy.

Analysing this relationship V. I. Lenin pointed out that modern warfare requires a highly developed economy, in particular an industry capable of mass producing diverse armaments, materiel and ammunition. On the basis of the historic experience V. I. Lenin concluded that in war "those who have the greatest technical equipment, organisation and discipline, and the best machines, will gain the upper hand." He was convinced that to meet the country's economic and defence requirements the material base of socialism should develop on the basis of modern science and technology. This would provide the possibility to develop advanced combat equipment—the major component of the state's military potential.

Proceeding from V. I. Lenin's ideas, and taking into due account the specific nature of modern war, the present revolutionary development in science and technology and the new stage of

economic development of the USSR, the CPSU bases its policy on the assumption that the defence power of the state depends on its economy. This has made special demands on the socialist economy throughout the history of the Soviet state. The economy was required to provide substantial stocks of raw materials, technical and combat equipment in peacetime and, in the event of war, to guarantee the production of advanced arms and combat equipment in the necessary quantity.

Defence production has been constantly in the focus of CPSU's activities. As early as the 30s the USSR, encircled by the capitalist states, built in a short time a powerful defence industry. Especially fast was the development of the tank and aircraft industries, great strides were also made in building plants manufacturing small arms, ammunition, surface ships and submarines as well as engineer equipment.

The implementation of the plans for modernising the armed forces was interrupted by the treacherous attack of Hitler Germany on the USSR in June 1941. But the scientific and technological basis built in the 30s provided for further development of the Soviet defence industries in the war years.

When the war broke out the Soviet economy was reorganised in the shortest possible time to meet the requirements of war. Nazi Germany together with her war allies and the occupied countries surpassed the USSR in total industrial output by 50-100 per cent at the start of war, and in 1942 the superiority rose 100-300 per cent. Through the tremendous efforts of the CPSU and

the working people the Soviet economy mobilised all resources and produced during the war twice as much weapons and combat equipment as Germany, and this, along with other factors, predetermined the victorious outcome of the war for the Soviet people.

During the first postwar years US imperialism staked on its nuclear monopoly. The USSR had to react by building its own nuclear potential. By the end of 1953 the Soviet Union possessed a variety of nuclear weapons including the hydrogen bomb as well as the experimental concepts of their employment and nuclear protection.

Now that the Soviet people have been living in peace for over thirty years, the Communist Party can implement its economic policy of steadily raising the material and cultural standard of the population, creating favourable conditions for comprehensive development of the individual. This is to be attained through further growth of the effectiveness of social production, through increased productivity of labour, enhancement of the social and labour activity of the Soviet people. This political course was reaffirmed at the 26th Congress of the CPSU.

A major feature of the CPSU's present day economic strategy is implementation of large scale tasks of economic development, now to be effected primarily through intensive methods. This is clearly manifested in the recent economic indexes of the USSR for the Tenth and the beginning of the Eleventh Five-Year-Plan periods.

The economic development of the country both in production and structure presents better opportunities for providing stronger security. The defence requirements can be satisfied in a more comprehensive way and for a longer perspective in all sorts of sophisticated materiel and equipment, reliable and accurate instruments and electronic facilities.

The war potential of a state is not only measured by the amount of its resources but also by the degree of their availability for the defence needs, by the flexibility of control of these resources. This depends on many factors and primarily on the state's socio-political and economic structure. The predominance of the economic factor is especially felt in critical periods of the state's history. Progressive social changes towards more effective economic organisation and higher labour productivity usually lead to new and wider opportunities for full and purposeful distribution of social and economic resources for defence.

It is quite evident that socialism is indisputably superior in this respect to any social system bas-

ed on private property. This superiority vividly manifested itself during World War II when no country could match the Soviet Union in flexibility and effectiveness of employment of the state's overall economic and military resources. While the USSR switched its economy to a military footing within a few months, the USA and Great Britain required from 1.5 to 2 years for this purpose and France failed to do it at all.

The socialist system is essentially flexible in its organisation, which affords the best opportunities for prompt, planned and effective reorganisation of national production and all the available resources for a single purpose.

Economic build-up does not necessarily bring about a major and sweeping increase in the state's international influence. The political positions

of a developed state become stronger only if its international efforts are in line with the progressive trends of world social development. The opposite happens when the policy is governed by reactionary, adventurist and inhuman aspirations. An economically strong imperialist power may find itself unable to make use of its economic superiority and fail to win a war. The US defeat in Vietnam is a striking example of this.

The successful implementation of the Tenth Five-Year Programme facilitated the growth of the prestige of the world socialist system and contributed to strengthening the Soviet and socialist community's defence potential. As noted by the 26th Congress, questions of strengthening the country's and its Armed Forces' defence capability have never escaped the attention of the Communist Party of the Soviet Union. The international situation makes this imperative.

The USSR has always balanced its war potential with that of its enemies and spends as much as is absolutely necessary to guarantee its own and the socialist community's joint security. The Soviet Union has to use part of its resources for this purpose in order to discourage a potential aggressor from attempting to win by force of arms the historic dispute between the two opposing social systems.

Seeking to upset the existing world balance in their favour the USA and other imperialist countries have recently stepped up their war preparations. They hope that militarisation of their economy and science will earn them military superiority over the socialist states. With this in view they have inflated their defence budgets and accelerated their long-term arms programmes. During the past decade the NATO countries' arms

expenditures have more than tripled and continue to grow both relatively and against inflation. The US government is cutting down social funds while raising the ceilings of military hardware appropriations.

The arms build-up escalated by the imperialist states is marked not only by increased volume of military production but also by improving the quality of the weapons systems manufactured. Their long-term military programmes have recently concentrated on research and development of sophisticated armament, on modification of war-oriented industrial technology and on enhancing the mobilisation readiness of their economy. The American industries specialising in production of war materiel, such as aircraft, missiles, nuclear warheads, electronic equipment, are awarded the biggest and most profitable contracts. The Pentagon multi-billion programmes for modernising nuclear and conventional arms surpass all the previous militarisation programmes, including those during the war in Vietnam. Particular acceleration is given to the development of new strategic weapons systems: the "MX" intercontinental ballistic missile, "Trident" submarine, air-launched cruise missiles. Enormous funds are also allocated to developing and producing the latest conventional weapons.

The current imperialist military build-up also manifests itself in the expanding NATO joint development programmes in weapons systems, research centres, theatres of operations. The NATO states have recently increased the number of new aircraft and missiles developed by joint efforts and intensified export of different weapons and combat equipment. West Germany and Italy cover from 40 to 60 per cent of their arms requirements by purchasing the jointly produced NATO equipment. Economic and military integration is becoming an essential factor of the military build-up in the West European countries. Integration has become an instrument for increasing the effectiveness of their war economy, making the best use of the revolution in technology and science for the benefit of their war preparations. At the same time the military industrial complex expects to extract new and bigger profits out of the national economies.

The military integration of the capitalist states, just as their economic integration, has been handicapped by acute internal contradictions. The continuous strife and rivalry between the mono-

polies and between states within the transnational monopolies seriously impedes the choice of weapons systems for production and the distribution of contracts, for each member of the imperialist alliance seeks to solve the problems for its own benefit.

Socialist economic and military integration proceeds on entirely different principles. It serves not only the defence, but also consolidates peace and security around the world.

Imperialist propaganda has launched in recent years an extensive slanderous campaign concerning an alleged Soviet "military threat." This campaign is primarily intended to justify the intense imperialist war preparations. To achieve this end the propaganda machine has been brainwashing the public by misinterpreting facts, manipulating figures, etc.

It is common knowledge, and it has been more than once admitted by NATO leaders, that there is presently a relative military balance between West and East.

As to the propaganda campaign about a "Soviet military superiority" it is being whipped up by those who refuse to accept the existing relation of forces and strive at all costs to shift it and gain unilateral superiority.

In this connection it is worth while to recall the words of Marshal D. F. Ustinov, Minister of Defence of the Soviet Union, who said that "the Soviet economy, science and technology have now reached such a high standard that they can develop within a very short time any new kind of weapon the enemies of peace could stake on."

The trend towards deeper and total militarisation of the economy and other spheres of life in the major imperialist countries results from the paramount influence on the state policy by what is presently termed the military industrial complex.

It is the arms manufacturers and their stooges in the state administration, the reactionary brass, who take the line of undermining détente, preparing wars, building up war potentials. The NATO decision, adopted under US pressure, to deploy new American medium range nuclear missiles in Western Europe poses a special danger for world peace today.

Militarisation of the economy and the arms build-up in themselves constitute a means of imperialist policy, a means of preserving and proliferating the system of capitalist exploitation and oppression. However, the aggressive course pursued by the US and its partners meets growing opposition on the part of the peoples of the world.

Imperialism can no longer use the force of arms so easily to attain its ends on the international arena.

Owing to the persistent efforts of the socialist countries and despite the activities of the aggressive circles a number of complex international problems have been resolved in recent years. Military strategic equilibrium has been established between the world of socialism and the world of capitalism, which is a victory of historic significance. It constitutes a deterrent against imperialism's aggressive encroachments and responds to the wishes of all peoples. All hopes to upset this balance are doomed to failure.

The socialist community exerts a growing influence on the international development including the forms and essence of struggle between the two systems. Socialism imposes predominantly peaceful forms of this struggle. But the class enemy never yields his positions without resistance, he continues to stake on military confrontation, on the force of arms, the most "radical" means of enforcement of his plans, the keystone of capitalist domination.

All this requires the USSR and other socialist countries to follow world developments closely and take appropriate steps to strengthen their defence potential.

COPYRIGHT: "Soviet Military Review", No 7, 1981

CSO: 1812/028

MILITARY-POLITICAL ISSUES

WARSAW PACT/CEMA TIES DISCUSSED

Moscow SOVIET MILITARY REVIEW in English No 7, Jul 81 pp 44-46

[Article by N. Katkov, Cand. Sci. (History): "Strengthening the Cohesion of the Socialist States"]

[Text] "Relations between states have been called international since olden days. But not until our time, in the socialist world, have they really become relations between nations. Millions upon millions of people take an immediate part in them."

L. I. Brezhnev,

Report of the CPSU Central Committee to the 26th Congress of the Communist Party of the Soviet Union and the Current Tasks of the Party in Home and Foreign Policy.

THE MOST important development in world history since the Great October Socialist Revolution has been the emergence of the world socialist system. With every passing year its might is steadily increasing, its international prestige is mounting and its influence on the historical destiny of mankind is growing. It is developing more and more into a decisive factor of world development. That is why the CPSU and the Soviet state regard all-round development of cooperation with the socialist countries and reinforcement of their unity and cohesion as the main line in their foreign policy activity. The 26th CPSU Congress pointed out that the successes of socialism, its influence on the course of world developments and the effectiveness of its struggle against imperialist aggression depend largely on the cohesion of the socialist countries. United action of the socialist countries is a vital factor in the struggle against imperialism.

What are the main lines in the USSR's effort to strengthen cooperation with the countries of the socialist community?

First and foremost, in the political sphere, to work out and implement a concerted foreign policy line to defend, jointly with those countries, socialist achievements against the encroachments of

world imperialism and reaction. The socialist states practise political cooperation in a variety of forms, such as visits of party and government delegations, regular contacts and talks at various levels, including summit talks, all this constituting an elaborate mechanism of mutual political ties between the socialist countries, their party and state bodies.

Comrade L. I. Brezhnev, General Secretary of the CPSU Central Committee, said:

"The main basis of our close cooperation, its soul and the guiding, organising force, is the indissoluble militant alliance of the Communist parties of socialist countries, the identity of their world outlook, their aims and will."

In its relations with the fraternal parties the CPSU firmly adheres to the tried and tested rule: to pursue all affairs in the spirit of true equality and interest in one another's achievements, working out decisions with account not only of national, but also of international interests. This cooperation is unfolding on the basis of mutual advantage and comradely mutual assistance, on the principles of socialist internationalism.

The secretaries of the Central Committees of the

fraternal parties regularly hold bilateral and multilateral meetings and conferences on international, ideological and party organisation matters. The meetings of the leaders of the fraternal parties in the Crimea play a special role. In the last few years they have become regular. Contacts between local party bodies are also effected. For instance, at present close on 1,000 territories, regions, cities, towns, districts and enterprises of the USSR maintain direct contact with their counterparts in fraternal socialist countries.

The Warsaw Treaty Organisation and its Political Consultative Committee are successfully promoting political cooperation. This organisation has developed into a key mechanism of the fraternal countries for working out a coordinated course in international policy and matters of defence. The jointly agreed actions of the USSR and other countries of the socialist community in the field of foreign politics have become a permanently operating factor in their political life. The new proposals advanced by the Political Consultative Committee at its meeting in May 1980 were a vivid manifestation of their goodwill and peaceful intentions. The peace initiatives of the socialist countries have provided the foundation for many decisions of big international forums. These initiatives have also been reflected in a series of interstate acts.

The CPSU and the parties of the fraternal countries pay special attention to the defence of socialist achievements. In doing so they proceed from the assumption that countries engaged in building a new society must jointly ensure the defence of socialist achievements against attacks of imperialist forces. That is why, the CPSU and the other fraternal parties, exhibit constant concern for the steady growth of the defence capacity of the socialist states and for their close cooperation in the sphere of defence.

In an effort to halt the triumphant advance of socialism, immediately after World War Two, international imperialism unleashed the cold war against the socialist countries, forced the arms race upon them and knocked together NATO and several other aggressive military blocks. This created the objective need to resist the combined military forces of imperialism. Accordingly the Treaty of Friendship, Cooperation and Mutual Assistance was signed by the European socialist states in Warsaw, Poland, on May 14, 1955. The chief purpose of the Warsaw Treaty is to guarantee the security of the socialist countries, to defend peace in Europe and to prevent the outbreak of another world war.

While perseveringly working for peace and security of peoples the Warsaw Treaty states have been extending cooperation in the sphere of defence. Such bodies as the Defence Ministers' Committee, the Joint Command and the Military Council of the Joint Armed Forces have been functioning effectively. An important line in military cooperation is ever broader mutual assistance in equipping the fraternal armies with the latest weaponry and other materiel. It also embraces mutual assistance in training skilled personnel in military educational establishments.

The efforts of the Warsaw Treaty Organisation for more than a quarter of a century have justified its existence in the face of imperialist blocs and the unending arms race. It has played a decisive role in precluding the outbreak of another world war.

The Warsaw Treaty Organisation being the main obstacle to the realisation of their aggressive intentions, reactionary politicians and bourgeois ideologists have been making frantic attempts to distort its true aims and purely defensive character. While constantly harping on the myth about the "Soviet military threat," the NATO ringleaders have been trying to justify in the eyes of public opinion their own feverish preparations for war.

Economic cooperation is a major component of socialist internationalism and of relations between the socialist states.

The world socialist system, above all the member states of the Council for Mutual Economic Assistance (CMEA), has made outstanding achievements in solving economic problems. At present the CMEA countries form the world's most rapidly developing economic community. While their population accounts for only 9.3 per cent of that of the world population, their industrial output is close to 33 per cent of world industrial output.

The world socialist system has evolved a wide variety of forms of economic cooperation. In this field the Comprehensive Programme for the Further Advancement and Improvement of Cooperation and Promotion of Socialist Economic Integration of the CMEA countries has played an outstanding part.

The year 1980 was another landmark in the implementation of this programme. As compared to 1970 the CMEA states have increased their national income by approximately two-thirds, whereas the West European countries of the Common Market have not managed to increase it by even one-third. The real per capita incomes of the people have shown an increase of more than 50 per

cent. In 1980 the first section of the combined Ust-Ilimsk pulp project was put into operation, the Soyuz gas pipeline, which is capable of delivering 15,500 million cu m of natural gas from Orenburg to the CMEA countries has been brought up to designed capacity together with the Vinnitsa-Albertirsha high voltage power transmission line, which has increased the delivery to the socialist states of electricity generated in the USSR by 6,400 million kilowatt hours a year. The second section of the Kiyembai asbestos concentration complex has been completed.

Since the CMEA was founded its member states have coordinated five five-year plans. The keynote of economic cooperation in the 1980s will be concentration of effort on solving common problems in fuel and energy supply, inter-state specialisation and cooperation of production, advancement of its technological level, realisation of progressive shifts in the sectoral structure of production and the territorial distribution of the productive forces.

True to its internationalist duty the USSR is continuing as before to spare no efforts for developing its fuel and raw material industries to meet not only its own needs, but also those of the fraternal countries. At the same time it pays special attention to the construction of atomic power stations. Several enterprises, including the Soviet Atom-mash Works, the Czechoslovak Skoda Association, the GDR heavy engineering works in Magdeburg and the Hungarian Chimmach Association, will play a big role in the manufacture of equipment for atomic power plants. The fulfilment of this large-scale programme will provide the East European CMEA countries and Cuba with new power generating facilities whose output will be the equivalent of about 70-75 million tons of reference fuel, i.e. the fuel supplied by the Druzhba oil or four Soyuz gas pipelines.

The CMEA member countries pay serious attention to specialisation and cooperation of production. They have built large scale specialised industries. For instance, Bulgaria is turning out electrical and mechanical truck loaders, Hungary is manufacturing buses, large quantities of serially produced truck assemblies and elements, the GDR is concentrating on shipbuilding, the manufacture of chemical engineering and textile machinery, forge presses and passenger railway carriages, Poland on shipbuilding and making roadbuilding and construction machines, Rumania on oil extracting equipment and locomotives and the USSR on the production of unique equipment.

Scientific and technical cooperation is another important line with the CMEA member countries.

It is being effected through joint consultations on vital questions of scientific and technical policy, forecasting of scientific and technological development in the next 10-15 years, work in the sphere of scientific and technical information and training of scientists, exchange of achievements and experience in science and technology, supplying of apparatus, materials and instruments.

At present over 3,000 scientific research, design and higher educational establishments, including 200 research institutes of national academies of sciences, are engaged in solving scientific and technological problems of interest to the countries of the socialist community. Since the Comprehensive Programme was launched the joint efforts of the CMEA member states have enabled them to complete over 14,000 theoretical and applied works.

The fraternal states render one another technical assistance in the construction and modernisation of industries and other enterprises. This has assumed the form of designing plants and delivering equipment. Thus, as of January 1, 1980 the USSR rendered the other CMEA member countries technical assistance in the construction, modernisation and expansion of 2,600 plants, factory departments and other projects, including 1,700 in heavy industry.

The pooling of efforts to solve scientific and technological problems has proved fruitful. This has been vividly confirmed by the weighty contribution of the international space crews with the participation of Polish, GDR, Bulgarian, Hungarian, Vietnamese, Cuban, Czechoslovak, Mongolian and USSR citizens.

Ideological cooperation has played a major part in strengthening the unity and cohesion of the states in the socialist community. It has been manifest in joint development of Marxist-Leninist theory, pooling of efforts by party, state and public organisations in moulding a scientifically sound world outlook in the broad masses of working people, in advancing their communist education and mustering forces in the struggle against bourgeois and opportunist ideology.

Other forms of ideological cooperation are also widely practised. They include conferences, seminars, visits of party delegations to study the organisation of ideological education, joint publication of books on outstanding issues in world development, exchange of newspaper columns, radio and TV programmes.

Cultural contacts between the fraternal countries are also being strengthened and extended. Such forms of contacts as days of culture, theatre

and cinema co-production, festivals, expositions, theatre company tours, contacts between artistic associations and translations of literary works are widely practised. Thus, there is a lively intercourse between tens and hundreds of millions of people, greatly enriching the spiritual life of the socialist countries and making the achievements of the socialist national cultures the common patrimony of the peoples of these countries.

Historical experience shows that fraternal cooperation between the socialist countries has become a potent factor in the accomplishment of their national and international tasks, in the defence of their revolutionary achievements and the strengthening of peace. The Decision of the June 1980 CPSU Central Committee Plenary Meeting says:

"The furtherance of cooperation between the socialist countries in the political, economic, defence and other spheres, and the constructive efforts of their organisations reliably serve the cause of peace and progress."

In the Report to the 26th Congress L. I. Brezhnev, General Secretary of the CPSU Central Committee, said:

"A fundamental unity of views has taken root among us on all major aspects of social and economic development, and international affairs. This is a result of the continuous cooperation of fraternal Communist parties, and our common achievement."

COPYRIGHT: "Soviet Military Review", No 7, 1981

CSO: 1812/028

MILITARY SCIENCE, THEORY, STRATEGY

ROLE OF SECOND ECHELON DISCUSSED

Moscow SOVIET MILITARY REVIEW in English No 7, Jul 81 pp 23-24

[Article by Col M. Loginov: "In the Depths of the Defenses (Battalion Commander's Work to Organise Commitment of the Second Echelon)"]

[Text]

A tank battalion in the second echelon in an offensive is intended for exploiting the success of the first echelon subunits. Usually it destroys reserves and repulses counterattacks, pursues the withdrawing enemy subunits, captures important objectives in the depth of his defences and so on. The conditions under which a battalion carries out the assigned missions have their peculiarities. It is they that determine the methods and order of work of the battalion CO in taking a decision and bringing it to his subordinates' notice.

Let us examine the activity of a battalion CO in organising the commitment to action of a tank battalion and attacking with it in the depth of the "enemy" defences.

Battalion CO Major Melov understood from the mission assigned to him at 0830 hrs on July 19 that the 3rd Tank Battalion was the second echelon of the regiment (see Sketch) and advancing from the waiting area along the route: Shelovo-Oz ugino-Dulepovo, would have to be ready for commitment to action from the line: southern edge of Ovalnaya Wood — north-eastern edge of Dlinnaya Wood. In cooperation with the 1st and 2nd Tk Bns it would have to destroy the "enemy" reserves in the area: Hill 210.0 — barrow +5 — Dubovo and by "H" +4 hours to capture the line: Dubovo — Hill 110.0 subsequently advancing in the direction of Dubovo and Matveyevka. On commitment to action it would have attached a motorised infantry platoon, a platoon of combat engineers, a platoon of self-propelled anti-aircraft artillery (ZSU-23-4), a bridge layer and a treadway mine sweeper. Two artillery battalions would cover and support the battalion's commitment to action. Readiness of the battalion to advance from the waiting area is 0200 hrs on July 20.

According to intentions of the regimental commander the battalion was to complete destruction of the "enemy" re-

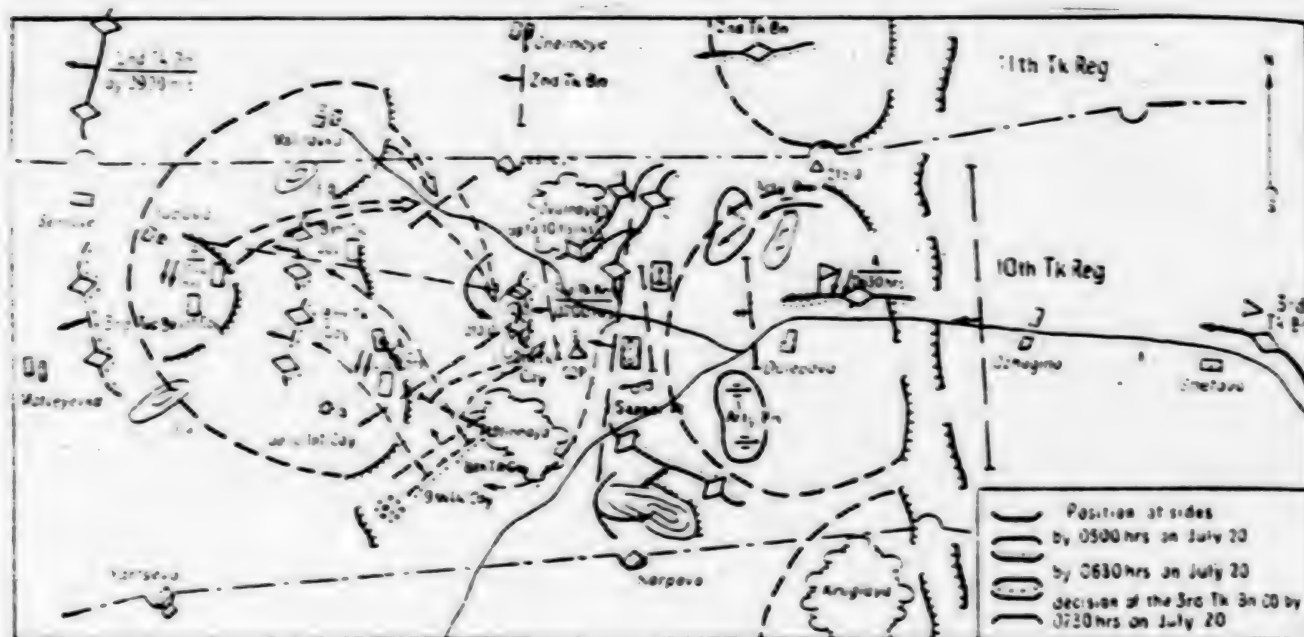
serves in the area: Hill 115.0 — barrow +5 — Dubovo. It was planned to commit the battalion to action in the gap between the 1st and 2nd Tk Bns from a line 5 km behind the "enemy" FEBA.

After sizing up the situation the battalion CO calculated the time and at 0845 hrs on July 19, issued a warning order to prepare for the forthcoming battle to the subunit commanders.

Estimating the "enemy" Major Melov thoroughly studied the layout of his strong points and anti-tank weapons there and concluded that the second position of the "enemy" defences on the battalion's line of advance would be based on company strong points in the areas: barrow +5, Dubovo. The battalion CO considered Malinovka — Hill 210.0, Dlinnaya Wood — Hill 210.0 as the most likely directions of counterattacks by "enemy" reserves. The "enemy" would need not less than 25-30 m to reach the counterattacking line and to deploy on it. It followed that the "enemy" would most probably launch a counterattack after the battalion had deployed into battle order and approached the line west of Hill 210.0.

Taking into account the possibility that the "enemy" might use combat helicopters with ATGMs from behind Ovalnaya Wood or Dlinnaya Wood the battalion CO decided to keep the self-propelled AA platoon at the head of the main forces during the advance to the line of commitment and behind the centre of battle formation during deployment and attack.

He decided to assume a single-echelon battle formation with a platoon of the 7th Tk Coy in the reserve, the tank companies of the first echelon being formed up in two lines. This made it possible to use the maximum number of tanks in the attack and at the same time to avoid their dense



concentration in the first line when advancing between the wood and the ridge of hills. The main effort was to be concentrated in the centre of the battle formation in the direction of Hill 210.0 — Matveyevka.

From his estimation of the condition and the possibilities of the friendly subunits, Major Melov concluded that it was necessary to have the 7th Tk Coy (less a platoon) with a bridge layer on the right flank of battle formation; the 8th Tk Coy reinforced with a Mts Inf Pl and the treadway mine sweeper (KMT-5) in the centre; the 9th Tk Coy with a section of combat engineers on the left flank and a platoon of the 7th Tk Coy and a sapper platoon (less a section) in the reserve.

Further he defined the missions to subordinated, attached and supporting subunits. The battalion CO's concept boiled down to the following: under cover of fire from the supporting artillery to attack rapidly with three tank companies from the line of commitment to action, destroy the "enemy" reserves in strong points in the area: barrow +5 — Dubovo and capture the line: Dubovo — Hill 110.0.

The battalion CO estimated the ground with particular thoroughness. First of all he was interested in the possibility of a timely advance, rapid and secret deployment of subunits into pre-battle and battle formation. Having studied the route he concluded that the condition of the road allowed the battalion, if necessary, to move at a speed of 30 km/h and the terrain favoured a concealed advance and deployment on the line of commitment to action. At the same time in the direction of commitment to action of the 2nd Tk Bn the terrain allowed the "enemy," using the woods and hills to manoeuvre with his antitank weapons, use fire support helicopters and secretly bring up reserves

for launching a counterattack against the flank of the advancing tank battalion. Proceeding from this Major Melov decided to locate his command and observation post during deployment on the eastern slopes of Hill 210.0, thus ensuring observation of all subunits of the battalion. He decided to transfer the CP-OP behind the 8th Tk Coy, i.e. in the direction of concentration of the battalion's main efforts.

It should be noted that the battalion CO allotted not less than two thirds of the time available to organising combat actions in tank companies.

Having made sure of subunits' readiness to advance, Major Melov reported by telephone to the regimental commander at 0100 hrs on July 20. The latter informed him that "H" hour would be 0500 hrs on July 20.

At 0230 hrs the battalion began its advance, passed the initial point at the appointed time and by 0630 hrs the head of the column reached the eastern suburb of Dulepovo, where it was attacked by four "enemy" planes. While the battalion was repulsing the air attacks information was received that withdrawing "enemy" subunits with antitank weapons were taking up defensive positions in front of the line of commitment to battle. Having estimated the given situation the battalion CO concluded that the "enemy" using the advantages of the terrain to fire from Hill 210.0 would be able to deliver a sensible blow at the moment of the battalion's deployment and that its attack on the strong point in the area of barrow +5 could be frustrated, and consequently the purpose of committing the 3rd Tk Bn from the appointed line would not be achieved.

Accordingly, in the course of the advance to the previously planned line of commitment to action Major Melov specified the mission. It boiled down to the following: to make a quick thrust with the 7th Tk Coy (less a pl) to Hill 210.0, attack the "enemy" hastily taking up defensive positions, capture the hill and by direct fire at the strong point in the area of barrow +5, to destroy the "enemy" manpower and fire weapons, not allowing the "enemy" to counterattack on the battalion's flank from the sector: Lesnoye — Hill 210.0; the 8th and 9th Tk Coys in platoon columns to bypass Dlinnaya Wood on the south and emerge on the flank of the "enemy" in the strong point in the barrow +5 area, to attack on the move from the new line of commitment: south-west edge of Dlinnaya Wood—separate bushes, after an artillery attack to rapidly attack and destroy the "enemy" in strong points: barrow +5, Dubovo and capture the line: Dubovo — Hill 110.0. This decision was approved.

The battalion CO assigned missions by wireless to companies, specified the time of commitment to action and transmitted the signal "Burya" (Storm)-222." At this signal the 7th Tk Coy, increasing its rate of advance deployed at 0700 hrs on the eastern slopes of Hill 210.0, carried out a swift attack on the "enemy" assuming the defensive on this hill and opened a direct fire from stationary positions at the antitank and fire weapons in the strong points on Hill 115.0 and on Hill with barrow +5.

The rest of the battalion's forces (the 8th and 9th Tk Coys with reinforcing means) advanced secretly in platoon columns under cover of Dlinnaya Wood to the line of passing over to the offensive and at 0730 hrs, using fire of the artillery and the 7th Tk Coy, attacked the "enemy" on the move. By 0900 hrs on July 20, in cooperation with subunits of the 1st and 2nd Tk Bns they fulfilled the initial mission by capturing the line: Dubovo — Hill 110.0. Then they continued to press home the attack in the direction of Matveyevka.

COPYRIGHT: "Soviet Military Review", No 7, 1981

CSO: 1812/028

MILITARY SCIENCE, THEORY, STRATEGY

PREDICTION IN WARFARE DISCUSSED

Moscow SOVIET MILITARY REVIEW in English No 8, Aug 81 pp 11-13

[Article by Lt Gen M. Kiryan, D. Sc. (Military): "Forecasting in Warfare"]

[Text]

FORECASTING is a form of concretised scientific foresight, which consists in knowledge of possible changes in a definite field. As distinguished from foresight, forecasting deals with narrower tasks of a theoretical and practical character. Just as in any other field forecasting in military science and warfare may be empirical (applied) or scientific. Empirical forecasting based on military experience, intuition and "everyday" practice has existed since wars ever occurred. The distinguished Russian generals Peter I, Alexander Suvorov and Mikhail Kutuzov displayed brilliant examples of it. Scientific forecasting became possible only on the basis of the Marxist-Leninist doctrine about objective development of the world and its knowableness.

The term forecast has gained considerable currency since the Second World War, when major shifts occurred in mathematics, cybernetics and computing equipment, which made it possible to model accurately future phenomena in the development of armies and the methods and forms of warfare and troop control. Since then it has become possible to resort to forecasting in order to determine long-term probability data on the possible lines and trends in the development of armed forces, military equipment and the art of war in one's own country and in that of the potential or actual enemy, to establish the possible character, course and outcome of a future war.

These tasks and possibilities of forecasting have determined its application to a wide range of fields, namely the military-political, military-strategic, operational-tactical, military-economic, milita-

ry-technological fields which are interconnected and mutually dependent.

Military-political forecasting serves above all to establish the socio-political content, character and essence of wars that world imperialism may unleash in the future and to determine the possible military-political groupings. It is exceptionally important, because on it depends the correct determination of the aims and scope of a war, the attitude of various classes, parties and governments. The line to be adopted in preparing the country and the armed forces for war also depends on it.

Military-strategic forecasting, which proceeds from the results of military-political forecasting, helps determine the possible military-political character of a future war, the methods of employment of one type of weapons or another and the extent to which it will be employed, the character of local wars, the quantitative composition and qualitative state of the armed forces of a potential enemy, plans for their strategic employment on the outbreak and during the course of a war and the versions of such employment.

Operational-tactical forecasting makes it possible to establish the character of possible types of warfare, operations and battles, the methods of their conduct with the use of new and future means of armed struggle, to determine the consequences following from the use of mass destruction weapons, to work out countermeasures against them to protect friendly troops and installations in the rear and also to restore their fighting capacity. A forecast of probable enemy mo-

ves in the course of a war will help establish his intention in the employment of his forces, nuclear and other weapons.

Proceeding from present-day conditions and modern views on the character of future military operations, Soviet military science maintains, on the basis of the forecast, that the main form of combat action will be the offensive. At the same time it believes that defence will play an important role both on the operational-tactical and the strategic scales. Defence should be active at all levels to pave the way for an offensive (counter-offensive) in order to secure the complete rout of the enemy. Proceeding from this operations may be offensive or defensive. In scale they may be strategic, front (fleet, air defence area and army group), army, corps or flotilla operations. They may be executed by large formations of one or several fighting services, with or without nuclear weapons.

The training of troops (forces) is conducted taking into account the possible character of future operations. Following from this provision the plans for future operations are produced, pertinent decisions taken, groupings of troops, forces and weapons and the necessary reserves of war materials are created, a troop control system is set up and other measures are effected. In the course of combat operations operational-tactical forecasting helps establish possible changes in the situation resulting from the employment of various weapons and combat actions of forces.

Proceeding from general economic laws and the theory of military economy, **military-economic forecasting** helps to reveal the further development of the military-economic potentialities of the country and those of a potential enemy in providing the armed forces with the necessary equipment for future military operations, to supply the state and military leadership of one's own country with information on the rational quantitative and qualitative composition of the armed forces, fighting services and arms, the most expedient organisation of operational formations and units, to determine the necessary budgetary allocations for their maintenance and to obtain information on the possible consumption of economic resources in preparation for war and in the course of the war.

To obtain authentic findings military-economic forecasting takes into account the interconnection between war and the economy, the laws governing the functioning of the military economy in time of peace, the methods of preparation for mobili-

sation and conversion of the economy from peacetime to wartime production, its stability in time of war and the probable conditions of economic provision for the armed forces and for the conduct of war. **Military-economic forecasts** are made in close combination with planning. This is reflected in parallel development of planning forecasts, project forecasts, etc.

Generally speaking military-economic forecasting is based on the material and technical capacities, labour resources and military outlays of the state for the economic provision of its needs in war. In the structural plane it deals mainly with such spheres as munitions industries and basic economic sectors insofar as they provide the munitions industries with means of production and the armed forces with items of equipment and consumption. Here the basic sectors of the national economy exert a decisive influence. Taking into account the fact that a future world war would be a war of coalitions, military-economic forecasting proceeds from the economic potential of the coalition in question.

Military-technological forecasting provides information on possible characteristics of weapons and military equipment, prospects for their further development and improvement, production of new means of armed struggle. The availability of such information provides the possibility to determine on a scientific basis the prospects for the development of weapons and other military equipment in order to ensure that they should meet the requirements of a future war. Taking into account the possible character of a future war and operations in it and the findings of military-technological forecasts, military science has arrived at the conclusion that balanced development of various types of weapons and other military equipment is essential. The armed forces should not be limited to only one weapon, even though it may be the most powerful.

Forecasting is usually subdivided into short-term, which determines the prospects for the development of phenomena within a period of up to five years, medium-term—for a period of five to ten years, and long-term—for a period of more than ten years. Short-term forecasts are the most detailed and accurate. Long-term forecasts outline only the general trend in the development of military science or its components, give a general idea about a possible war. Therefore as time passes, they are specified in greater detail taking into account new, more concrete data.

in forecasting mathematical, heuristic and combined methods of research are applied.

Mathematical methods applied with the help of modern computing equipment make it possible to produce rather quick results which are completely or largely free from subjective influences. Heuristic methods and methods of expert appraisals in forecasting require the employment of large teams of specialists (experts) who base their deductions mainly on experience and intuition. This makes it possible to draw more correct conclusions from findings obtained from mathematical calculations.

Parallel employment of various methods in forecasting sometimes gives rise to results which vary to a certain degree or even contradict one another. To remove these distinctions and contradictions wide use is made of logical analysis, which considerably reduces error in forecasting. In this case the methods applied in forecasting complement one another. This increases the authenticity of results in forecasting complex processes in military science.

Forecasting of processes in military science differs from forecasting in other fields in which it is often intended to adapt actions to an anticipated state or condition. In military matters the value of forecasting is determined by the degree in which the information obtained is used for changing the situation. Forecasting is complicated by the need to appraise the possibilities and character of two contending sides which keep their intentions and calculations cloaked in deep secrecy. To adopt a timely and sound decision, one which meets the needs of the given situation, the information should be authentic. Moreover, it should be obtained in minimum time.

The emergence of the latest means of warfare has changed the character of military operations and has made it extremely difficult to forecast possible changes in them. This follows from the vast increase in the volume of information which must be taken into account in forecasting and the rapid changes in its content. The exceptional destructive power of modern weaponry has made it necessary to forecast the consequences of its employment. The main purposes of such forecasting are: to determine possible losses in manpower, weapons, other military equipment and war materials, tentatively to appraise the character and volume of work required to eliminate the consequences resulting from the employment of weapons of mass destruction. These data are essential for

the commander and staff to enable them to determine the degree in which the fighting capacity of the units and formations is affected, to take additional measures in order to protect personnel, notify forces of ground contamination in the operations zone, demolitions, roadblocks, floods and fires, to chart routes for negotiating or bypassing contaminated areas, establish safety areas for location of troops and to define tentatively the time during which personnel should wear the means of protection. Forecasts are also made of water conditions (on rivers or lakes), ice conditions on reservoirs, condition of the seas, oceans and straits, weather conditions for choice of time for beginning and pursuing military operations, for launching missiles, execution of missions by conventional aircraft and helicopters, artillery firing, etc.

In dealing with the use of forecasts by commanders and staffs it is necessary to mention the need for skill in drawing correct conclusions from them. This is particularly important because the same findings may be used for different (including faulty) conclusions. The following instance from the Great Patriotic War confirms this. In the latter half of November 1941 the strategic situation on the Moscow sector was shaping in favour of the enemy, not the Soviet forces. Proceeding from this the Nazi German Command concluded that it would be possible to seize Moscow in a short time. However, this conclusion proved false, because the Nazi military leadership was unable to make an objective appraisal of the situation as a whole. In particular, it ignored information on the concentration of Soviet reserves near Moscow, on the high morale of the Soviet people and army, the expanding military potential of the USSR and the improved fighting skill of Soviet officers and men. On the other hand, Soviet Supreme Command GHQ took into account all the factors characterising the potentialities of the Soviet state, people and army and correctly determined the noticeable tendency of the enemy offensive to peter out. Proceeding from this GHQ took the sound decision to wear out the enemy by active defensive operations, to launch a counteroffensive, rout him and throw him back from Moscow.

A superficial analysis of forecast information may lead to irreparable consequences in war today. The necessity for accuracy of data obtained through forecasting has sharply increased. Accordingly, the leading countries have set up a system of agencies to forecast the possible character of a future war and the problems arising therefrom. It comprises the general staffs, HQs of the

fighting services, departments of defence ministries, scientific research establishments, military educational establishments, specialised military formations and units, and other military organisations, such as corporations, commissions, institutes, societies and centres. A whole range of technical means have been developed for forecasting situations that may take shape in operations,

for playing out decision versions to find the optimal one.

Such are the main tasks, possibilities, content and methods of forecasting various processes in military matters in present conditions.

COPYRIGHT: "Soviet Military Review", No 8, 1981

CSO: 1812/029

ENCIRCLEMENT OPERATIONS IN GREAT PATRIOTIC WAR DESCRIBED

Moscow SOVIET MILITARY REVIEW in English No 8, Aug 81 pp 36-39

[Article by Col N. Kobrin, Cand. Sc. (History): "Encirclement Operations" under the rubric "Military History"]

[Text] During the Great Patriotic War (1941-45) encirclement of strong enemy groupings was one of the most resolute forms of the Soviet Army's offensive operations. In encirclement operations the Soviet forces crushed over 200 enemy formations.

Encirclement of enemy groupings was carried out under the most diverse conditions. Of paramount importance was choice of the direction of the main blow. When the Soviet forces deeply enveloped the opposing grouping its encirclement was achieved by breaking through the enemy defences on the flanks and then pressing home the attack in converging directions. This allowed the striking groups to cut into the enemy rear and tighten the encirclement ring quickly and by the shortest way.

It is characteristic that even with a small overall superiority in men and equipment (thus in the counteroffensive at Stalingrad in November 1942 it averaged 1.1-fold in men, 1.5-fold in artillery and mortars, 2.2-fold in tanks, 1.1-fold in aircraft) the Soviet Command by weakening secondary sectors resolutely massed men and equipment in the directions of the main blows. On the South-Western Front during the above mentioned operation on a breakthrough sector with a general frontage of 22 km (one tenth of the front's zone of advance) was concentrated 70 per cent of the infantry and cavalry divisions, 80 per cent of the artillery and 100 per cent of the tanks and aircraft. This made it possible to build up there an overall superiority over the enemy 2.5-fold in manpower and 5-fold in artillery.

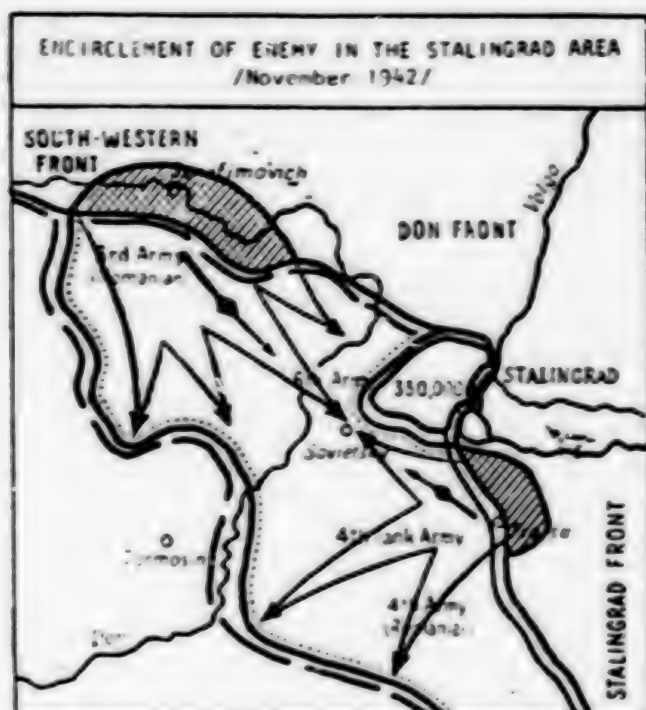
The Soviet forces repeatedly encircled the enemy also during pursuit in the operational depth. For example, in the Byelorussian operation

in the summer of 1944 the Soviet units first encircled and destroyed the enemy flank groupings in the Vitebsk and Bobruisk areas and then the mobile tank formations having penetrated into the breaches delivered converging blows at Minsk. At a distance of 200 km from the assault position they closed the ring of encirclement around the 105,000 enemy grouping which was completely destroyed.

Encirclement of the enemy was also carried out by delivering one powerful blow with a subsequent envelopment and driving him to a water barrier. The cutting-off of the Army Group North in the Memel operation in October 1944 was achieved by the forces of the 1st Baltic Front striking a strong frontal blow in the Shauliai-Memel direction. This line of advance was the shortest way to the Baltic Sea (125 km). The blow was delivered at a weak sector in the enemy defences. Mobile

groups were the main force which cut the enemy grouping.

Of great importance was the operational structure of fronts and armies. In most operations it was deep. Besides a strong first echelon, second echelons comprising one or two combined-arms armies, were organised. As a rule, fronts included mobile groups consisting of one or two tank armies, one tank or mechanised corps and various reserves. Such a formation ensured a continuous build-up of forces during the breakthrough, when



pressing home the attack in the operational depth and destroying the encircled grouping. At the same time this made it possible to preserve a favourable correlation of men and equipment throughout the entire depth of the operation.

An effective role was played by formations of tank and mechanised forces. They formed mobile groups of fronts and armies and were part of striking groupings. Mobile groups were committed to action either to complete the breakthrough of a tactical zone, or after the breakthrough. A considerable distance ahead of the infantry formations they enveloped the enemy groupings and encircled them in a short space of time. Thus in the Korsun-Shevchenkivskyi operation (January-February 1944) mobile forces encircled ten divisions and one brigade in five days.

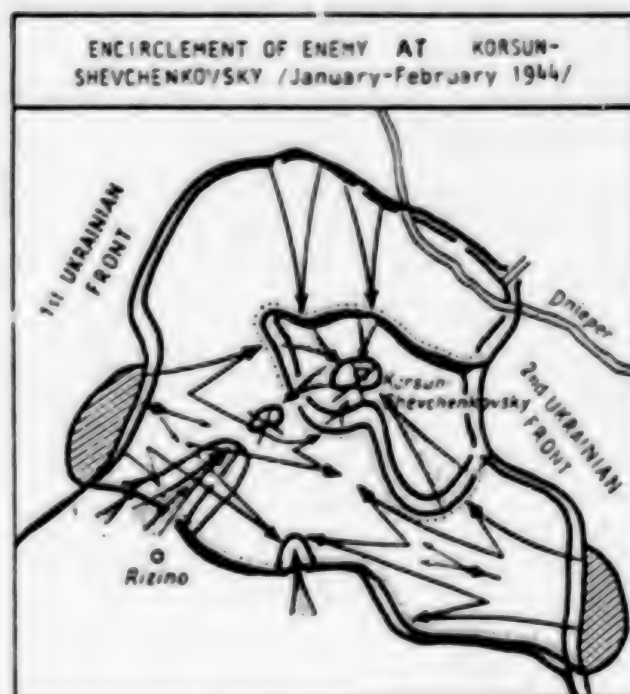
Surprise was of exceptional importance. It was achieved by keeping secret the concept of the operation, the directions of blows, the time of launching the offensive, and by concealed concentration of forces. Various methods of carrying out combat actions and skilful use of the terrain and meteorological conditions also promoted surprise.

Practically, the enemy reconnaissance never managed to establish that the Soviet Command was preparing an encirclement operation. For example, F. Jodl, chief of staff of operational leadership of the German armed forces' High Command, speaking of the Stalingrad operation noted:

"We overlooked completely a concentration of strong Russian forces on the flank of the 6th Army (on the Don). We had no idea of the Russian forces' strength in this area. Earlier there was nothing and suddenly a blow of great force was delivered there. This blow was of decisive significance."

Encirclement of the enemy was considered completed only after creation of a continuous interior and an active exterior front and organisation of air and naval (in maritime sectors) blockade. Depending on the correlation of men and equipment and also on which enemy grouping proved stronger: the one which was being encircled or the one which was remaining outside the encirclement ring, the Soviet Command defined the ways of creating the interior or exterior encirclement fronts.

In the Stalingrad and Korsun-Shevchenkivskyi operations, for example, when encirclement was carried out with an almost equal correlation of forces while the enemy had strong reserves beyond the exterior encirclement, the Soviet forces on the exterior front assumed the defensive. The distance between the interior and exterior fronts was usually 70-80 km. On the exterior encirclement front infantry, cavalry, tank and mechanised formations could assume the defensive. It depended on the specifics of the situation. In Korsun-Shevchenkivskyi operation, for example,

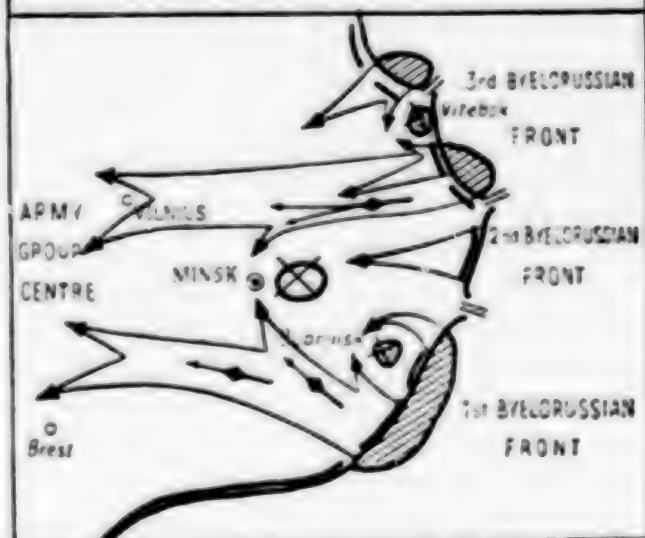


the 6th and 5th Guards Tank armies were used to organise the exterior encirclement front. A great quantity of artillery was concentrated between the interior and exterior fronts. The density of anti-tank artillery alone was 35-45 guns per one kilometre of frontage. This made it possible to repulse strong enemy counterblows of eight tank and six infantry divisions.

It should be noted that in repulsing enemy attempts to break out of the encirclement or to raise the blockade of the surrounded troops a great role was played by the aviation. Timely use of a great number of aircraft frequently made it possible to liquidate critical situations arising during the fighting, especially when it was difficult to transport land forces and equipment quickly. Thus when the enemy tried to break out of the encirclement in the Bobruisk area, on the order of the Commander of the 1st Byelorussian Front over 500 aircraft delivered a one and a half hour massed blow at the enemy. As a result, he lost almost the whole of his combat equipment, suffered heavy losses in manpower and was forced to lay down his arms.

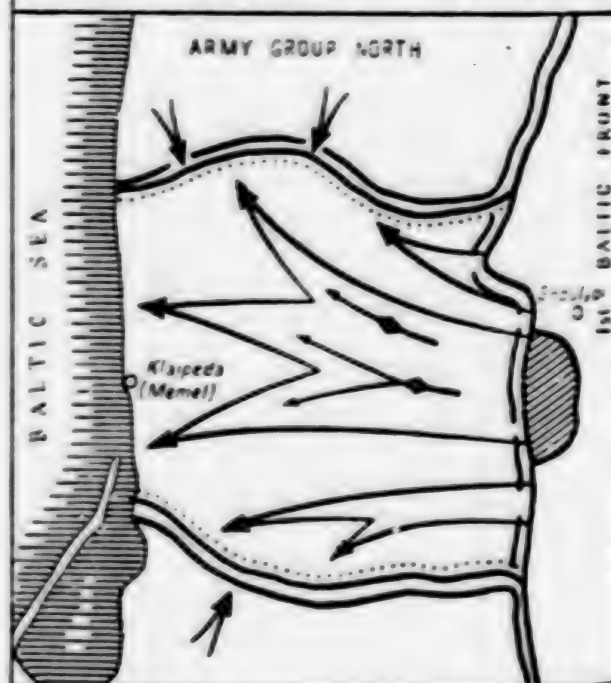
In conditions when the enemy had no strong reserves in the operational depth, the Soviet for-

ENCIRCLEMENT OF ENEMY GROUPING IN THE BYELORUSSIAN OPERATION /June-July 1944/



ces operating on the exterior front of envelopment rapidly pressed home the attack in the depth of the defences. They destroyed the enemy reserves moving back the exterior encirclement front to 100-150 km. Thus, they secured freedom of manoeuvre for the forces on the interior front and frustrated enemy efforts to raise the blockade of the encircled grouping.

CUTTING UP OF ARMY GROUP NORTH IN THE MEMEL OPERATION /October 1944/



In the Byelorussian operation while infantry formations were surrounding and destroying the enemy in the Vitebsk area, mobile groups of the 3rd Byelorussian Front advanced 70-100 km in the direction of Minsk. The Nazi Command found itself unable to help the encircled troops.

The interior encirclement front was usually formed by mobile formations. If the encirclement was carried out in the operational-tactical depth (as was the case in the Vitebsk area where the Soviet units surrounded the enemy grouping at a distance of 35 km from the forward edge), the interior front was organised by infantry subunits. The advancing units and formations captured, first of all, road centres, crossings on enemy routes of withdrawal and approach of his reserves. As a rule, the interior front was mobile and not continuous. However, in operations where it was necessary to build up forces for the purpose of destroying the encircled enemy, the interior encirclement front remained stable for a certain time.

Distribution of forces between the interior and exterior fronts of envelopment depended on the assigned missions and composition of the enemy groupings.

During the war a tendency to increase forces and equipment on the exterior encirclement front

was observed. If in the Ostrogozhsk-Rossosh operation (January 1943) only 25 per cent of the Voronezh Front forces were operating on the exterior encirclement front, in the Jassy-Kishinev operation (August 1944) — 60 per cent of the forces of the 2nd and 3rd Ukrainian fronts took part in the operation. The assignment of such a quantity of forces to the encirclement front and their active actions deprived the enemy of the possibility to raise the blockade of his grouping caught in the "pocket."

The ways of destroying the surrounded groupings were very diverse. If an encircled grouping managed to create stable perimeter defences, the offensive was carried out in one or several sectors with the aim of cutting and destroying it piecemeal. For example, the destruction of the 330,000 enemy grouping in the Stalingrad area required the operation "Koltso" to be prepared and carried out by the forces of the Don Front. During the offensive Soviet units successfully cut off and destroyed the enemy troops first in the western and then in the southern part of the "pocket." By a subsequent thrust to the city they cut the remaining enemy forces into two parts and destroyed them.

Destruction of surrounded groupings was particularly delayed if the enemy delivered powerful deblocking blows in an effort to link up with the encircled grouping, which carried out a meeting blow. In these conditions the Soviet forces had to assume the defensive simultaneously on the interior and exterior fronts. Sometimes the enemy managed to achieve a certain success and to reduce the distance between the interior and exterior front to 12-20 km. In such a situation the Soviet troops were forced to direct their efforts in the first place at destroying the enemy groupings on the exterior front.

If the encircled grouping managed to break through the interior front the Soviet Command brought up reserves and tried to surround once more the enemy who had broken out. Depending on the strength of the surrounded grouping, its combat capability and also the number of men and amount of equipment taking part in battle, this process could proceed in different ways. For example, in the Jassy-Kishinev operation the main enemy grouping was destroyed in five days. Part of the enemy forces managed to break out of the encirclement but they were destroyed in 12 days



after the rout of the main grouping at a distance of 100 km from the original area of encirclement.

The greatest success crowned operations during which the Soviet forces cut up the enemy grouping during the encirclement. In the majority of operations the cutting up of surrounded grouping was envisaged by the intention. That made it possible to destroy the enemy in a short time. In the Byelorussian operation, for example, the Vitebsk and Bobruisk groupings were destroyed in two days and the 105,000 Minsk grouping in seven days. During the Berlin operation (April-May 1945) a 200,000 enemy grouping surrounded south-east of Berlin was destroyed in seven days. It took the Soviet forces seven days also to break the stubborn resistance of the encircled Berlin garrison numbering hundreds of thousands of officers and men.

The experience of the war testifies that in an encirclement operation air blockade played a great role. It was carried out by the forces of air armies, long-range aviation, the Air Defence Forces and the men and equipment of the field forces. At Stalingrad, for instance, the enemy tried to supply his surrounded army from the air. But this attempt was frustrated. The Soviet aviation destroyed on the ground or in the air 1,160 combat and transport planes.

The Great Patriotic War provided quite a few examples of originally planned and brilliantly carried out encirclement operations by the Soviet forces. This experience continues to be a basis for developing modern theory and practice.

COPYRIGHT: "Soviet Military Review",
No 8, 1981

CSO: 1812/029

BOOK REVIEW: TANKS AND TANK FORCES [TANKI I TANKOVYYE VOYSKA]

Moscow SOVIET MILITARY REVIEW in English No 8, Aug 81 pp 54-55

[Book Review by Col L. Lopukhovskiy, Cand. Sc. (Military): "The Main Striking Force"]

[Text]

A BOOK "Tanks and Tank Forces,"* written by a group of professors and instructors of the Armoured Forces Academy named after R. Ya. Malinovsky,** officers of the central departments of the USSR Ministry of Defence and the Guards Kantemirovka Tank Division under the leadership of Colonel P. Skachko, D. Sc. (Military), Professor, examines: the contemporary condition of armoured equipment, the problem of the arrangement of the components of tanks and APCs, perfection of armament, electronic navigation equipment, communication means, infrared equipment and also maintenance and repair.

Of particular interest are the pages devoted to combat use of tanks in contemporary battle, to their place and role in different types of combat actions.

The authors emphasise that the tank forces created during the first years of Soviet power became in the hands of the proletariat and its army one of the powerful means of defending the Soviet Republic against imperialist aggressors.

For the first time in history Soviet military art created a theory of operation in depth in which tanks were assigned one of the decisive missions.

* A group of authors. "Tanks and Tank Forces." Military Publishing House, Moscow, 1980. 432 pp. (in Russian).

** R. Ya. Malinovsky (1896-1967) — a Soviet state and military leader, Marshal of the Soviet Union, Twice Hero of the Soviet Union.

By means of vivid and instructive examples from the history of the Great Patriotic War (1941-45) the book convincingly demonstrates how correct this theory proved. Large tank formations cooperating with the aviation, carried out operational and strategical tasks penetrating deeply into the enemy defences. Without belittling the role and significance of other weapons, the authors note exceptional contribution made by tanks to the victory over the enemy in the last war.

Tank forces were widely used in all types of battle. When carrying out offensive operations a rapid breakthrough by tanks deep into the enemy defence usually led to counteraction in the form of counterattacks and counterblows.

Taking into consideration the decisiveness of the aims pursued by the enemy groupings counterattacking or delivering counterblows, the fight against them most frequently took the shape of meeting engagements and battles. The authors rightfully call the meeting engagement the natural element of the tank forces, and this is borne out by many instructive examples.

Thus, in January 1945, during the Vistula-Oder operation,* the enemy delivered a counterblow with the forces of the 24th Tank Corps (comprising 3 divisions) against the advancing 4th Tank Army. As a result, a big meeting engagement ensued in the Kielce area, during

* Vistula-Oder operation (January 12-February 3, 1945) — an offensive operation of the Soviet forces to liberate Poland and provide favourable conditions for a blow at Berlin.

which formations of the 4th Tank Army using manoeuvre, surprise actions and blows at the enemy from the flank and rear, utterly defeated a strong enemy grouping. In this engagement the enemy lost up to 180 tanks and assault guns.

In the past war the Soviet Tank Forces were also used for counterattacks and counterblows during defensive actions of the friendly forces fighting the enemy pressing home the attack. During the Battle of Kursk the enemy advance was brought to a halt by a powerful meeting blow dealt by the 5th Tank Army's tank corps at a major Nazi grouping. As a result of a tense meeting engagement and the courageous actions of the Soviet tankmen hundreds of the Hitlerite tanks were burnt out and together with them the hopes of the Nazi Command to achieve a decisive success in the 1943 summer campaign.

Citing these examples, the authors point out that a meeting engagement by tank forces was and still is a basis for carrying out combat actions and many pages of the book are devoted, and rightly, to the questions of organising and waging this kind of battle.

It is known that one of the most important measures in preparation for a meeting engagement is to determine the method of action in case of encounter with the enemy and to create the most appropriate grouping of forces in good time, for the time limit, the vagueness of the situation and the specific position of the sides, as a rule, advancing towards each other, influence the organisation of combat actions.

During the past war battalions, brigades and sometimes even corps had from one to two-three hours for organising actions in a meeting engagement. In these conditions decisions for a meeting engagement were taken at extremely short notice, and the mission was assigned literally in minutes.

The book points out, centuries of experience of armed struggle confirm the decisive significance of the main type of combat action for victory over the enemy — the offensive. Only by resolutely advancing, destroying the enemy and taking prisoners is it possible to achieve his defeat.

The reader will find very interesting the pages of the book devoted to the specifics of tank operations in conditions of mountainous-desert and desert-steppe terrain.

In modern conditions, the authors write, in certain theatres of operations troops in the offensive have to negotiate flat desert and steppe

terrain and difficult mountainous areas with different soil and climatic conditions. Here the uninhabited territory, limited number and bad quality of roads, paucity of local building materials, food and water will influence combat actions.

Various and complicated conditions of the terrain can influence in different ways the mobility and speed of tank operations. Thus, desert and steppe terrains, where everywhere a wide dispersion of troops, their free deployment and, in many cases also, wide manoeuvre without roads are possible, and where there can be tens and even hundreds of kilometres between defensive lines can present most favourable conditions for manoeuvring and carrying out rapid offensive actions.

On the contrary in mountainous areas with their difficult terrain and also in the areas of quicksands, the rate of advance may be lower than in ordinary conditions. Due to the great variety of accidents of the terrain and peculiarities of the enemy defences, the character of combat actions will considerably differ.

In mountainous and desert areas, where there are particularly many sectors and lines advantageous for

defence and the possibilities for manoeuvring are extremely limited it will often be necessary to carry out the offensive with a breakthrough of enemy defence lines.

One of the most important conditions for success in defeating large enemy groupings in mountains and deserts is for tanks to cut into the enemy rear and his main lines of communication in order to capture the sources of water supply, logistical bases, approved routes and important road junctions. In this connection the role of the advanced units becomes considerably more important. It is considered that in mountainous areas there will be wide use of a combination of actions by the main forces to break through the lines from the front with deep envelopment of the

enemy by some of the forces through less accessible sectors to strike at his rear or capture important installations there.

Advanced detachments in mountainous terrain will mainly consist of motorised subunits reinforced with tanks. When exploiting success tanks will often have to break through the hasty enemy defences. Such a breakthrough will require of the tanks a great variety of combat actions.

In the desert and steppe terrain, it will be most advantageous to bypass an enemy holding defences in order to deliver a blow from the flank and rear. When a turning movement is impossible or disadvantageous, it is expedient to break through enemy defence simultaneously in several directions. A tank attack on the move following fire blows, and an advance at the highest speed allowed by the technical possibilities of the tanks in the given terrain conditions will make it easier to rout the defending groupings and reserves and to thwart his counteraction measures against forces advancing in the depth of the defence.

It is pointed out in the book that successful use of tanks in mountainous and desert and steppe areas involves a considerably greater necessity than in usual conditions of their reinforcement with engineer subunits capable of supporting tank actions in complicated soil conditions.

An important task for success of tank actions here, as also, incidentally, in other types of battle, is a skilled tank control by commanders at all levels. Independence and initiative of commanders of tank subunits, which will have to act at a distance from the main forces, are of particular importance in mountainous terrain.

Problems involved in actions by tank forces in defensive battle are also thoroughly analysed in the book. The authors point out that for tanks to assume defence was and most often will be a temporary

affair. Thus, at tank army and corps level during the last war defence was mainly organised for the purpose of repulsing counterblows of large enemy tank groupings, holding the exterior or interior encirclement front and also crucial operational lines and bridgeheads. Here the necessity to assume the defensive was determined, as a rule, by considerable enemy superiority in men and equipment, above all tanks and aircraft. For example, in the operations of the 1st Ukrainian Front in November 1943, the 2nd Ukrainian Front in February 1944, and the 1st Byelorussian Front in August 1944, tank armies comprised 80-160 tanks and self-propelled guns, while the Nazi Command had concentrated in the counterattacking enemy groupings operating in the zone of these fronts 4-5 tank divisions comprising from 100 to 600 tanks. Owing to the fact that during the war tank armies and corps were at the spearhead of the main blows of the advancing forces, counterblows of large enemy forces were aimed, as a rule, at them, requiring them to assume the defensive in order to inflict maximum losses on the enemy.

The authors note that skilled use of tanks in the defence increases its capacity to survive and resist countervailing blows of a superior enemy from any direction, creates favourable prerequisites not only for holding occupied lines and repulsing enemy attacks, but also for preparing conditions for passing over to a decisive offensive.

It must be pointed out that the effectiveness of tank forces in the Second World War was so great that their postwar development was pursued at accelerated speed in all armies of the world. A modern tank is a complicated combat vehicle created on the basis of the latest achievements of science and technology and tank forces are highly mobile military formations possessing the greatest possibilities for successful combat actions in a variety of combat situations.

COPYRIGHT: "Soviet Military Review", No 8, 1981

CSO: 1812/029

READERS' QUESTIONS ON AIR DEFENSE ANSWERED

Moscow SOVIET MILITARY REVIEW in English No 10, Oct 81 pp 22-23

[Unattributed article under the rubric "Modern Battle: Questions and Answers"]

[Text] **W**hat is the purpose and character of the actions of antiaircraft ambushes and roving antiaircraft subunits? Modern antiaircraft defence exerts a serious influence on the character of the actions and combat capabilities of aircraft. The aviation when carrying out missions is forced to take into account disposition and effectiveness of the antiaircraft weapons, and to find tactical methods precluding counteraction by the air defences or reducing their capabilities. Such methods include operating at low altitudes, using antiaircraft manoeuvre, jamming, concentrating forces on narrow sectors of the front, etc.

Hence arises a host of problems. They are connected with reliable cover of forces, interception of the probable directions of air attacks and flights of tactical airborne forces, with the battle formations of the antiaircraft subunits to ensure not only repulsion of enemy blows from any direction but also non-detection of the concentration of efforts by the protected forces and the air defence forces themselves.

Depending on actions of the protected forces and means of the enemy air attack, the subunits and units of the Air Defence Forces have evolved their own tactics. The various tactical methods of struggle against aircraft include antiaircraft ambushes and roving antiaircraft

subunits. These tactical methods are not new. They were used during the Great Patriotic War and also in local wars in Indochina and the Middle East.

By antiaircraft ambush one usually understands combat actions by separate antiaircraft subunits for the purpose of striking unexpectedly at the air enemy in the directions where he least of all expects counteraction. Antiaircraft ambushes are set out when there is a lack of men and equipment to cover the groupings of forces (installations) and the enemy, using the gaps between zones of fire or concealed routes, deals air attacks unopposed. Thus ambushes are organised in the most probable directions of enemy air attacks which bypass the fire zone of the air defence groupings.

Success of antiaircraft subunits' actions from ambushes depends on the thorough estimation of the air enemy, particularly the scale of his actions, his tactics and combat capabilities for breaking through antiaircraft defences and delivering blows, and also on the antiaircraft subunits detailed for ambush taking up positions in good time.

Mobile antiaircraft weapons, platoons and batteries which can be reinforced with antiaircraft gunners are used for an ambush. In some cases the strength of an ambush may

be greater. In the local war in Vietnam, for example, whole units were used for ambushes. Subunits in ambush are usually assigned a mission, position, march route, method of occupying and organising the OP and times of readiness and relief.

Roving subunits, like ambushes, are used when there is a lack of antiaircraft weapons. Unlike ambushes, roving subunits must possess a high activity, mobility and the ability to act quickly. They are assigned the mission not only to cover all-arms subunits, positioned over a considerable area, supplementing the fire system, but also to limit the freedom of the enemy aviation in this area by fire from constantly changing [temporary] positions.

As roving subunits batteries, platoons and separate mobile guns are used. In the local wars in Indochina and the Middle East such operations were frequently carried out by whole units.

A commander of a roving subunit is assigned the mission, area for manoeuvre, method of carrying out the mission, temporary positions, time of arrival there and time of readiness. Having arrived at the appointed area the subunit, either as a whole or in part, takes up the first temporary position. A platoon, for example, detailed for ambush, can act as a whole subunit, as pairs of antiaircraft guns or as separate guns. Positions are changed according to the order received or after each firing (repulsing an attack). Manoeuvring and firing of the subunit from different positions at the approaching targets make it possible to strike a telling blow at the enemy and thus to cover the troops on a greater area than when firing from one primary position only. Besides, such actions of a roving subunit

enhance the survivability of the air defence weapons and confuse enemy reconnaissance as to the real grouping of antiaircraft defence forces.

LOW-LEVEL AND VERY LOW-LEVEL TARGETS

Which targets are called low-level and which very low-level targets? What is the difference between them?

According to the foreign military experts, helicopters and other enemy flying vehicles performing flights at low altitudes (up to 1,000 m) are considered as low-level targets. Flights are performed at such low altitudes to increase survivability of the attacking aircraft when flying over the area of the Air Defence Forces weapons and to secure successful fulfilment of the assigned missions.

We know that the lower the target flies, the more difficult it is to detect it by radar and visually and therefore the target may appear unexpectedly for antiaircraft gunners. Tardy detection results in considerable reduction of the time to prepare the air defence weapons for firing and the large angle of flight of the target relative to the firing positions greatly hampers gunlaying and tracking, thus substantially decreasing efficiency of firing. The unexpected appearance of a target in the area of the antiaircraft weapons may lead to its getting through, as the crews may not be ready to fire.

The improvement in the combat use of air attack weapons and their flying performances has increased the possibilities of their using the range of low and very low altitudes.

Manned and pilotless aircraft and helicopters operating at altitudes from 10-15 to 600 m are usually called very low-level targets.

The flight of very low-altitude targets hugging the accidents of the terrain hampers still more the work of the air defence weapons. To this may be added the negative influence of the ground features on the control systems of the antiaircraft complexes. It is therefore not fortuitous that in its actions the aircraft strives to make wide use of low and very low altitudes though this may involve some flying difficulties.

To fight low-level and very low-level targets the Air Defence Forces develop special tactical methods which to a certain extent compensate the unexpected appearance of air targets in the area of the objectives and preclude their unopposed fulfilment of their combat missions. These methods usually include: choice of the probable directions of attacks (attacking lines) of air targets and strengthening reconnaissance in those sectors by various means; detailing to these antiaircraft sectors complexes capable of immediately opening fire on detecting a target; determining vital reconnaissance and firing sectors; laying of antiaircraft ambushes; maintenance of air defence forces in dangerous sectors, etc.

COPYRIGHT: "Soviet Military Review", No 10, 1981

CSO: 1812/27

ARMED FORCES

BIO DATA ON ADM A. I. BERG, CYBERNETICIST

Moscow SOVIET MILITARY REVIEW in English No 7, Jul 81 pp 27-28

[Article by A. Sholokhov: "Academician Berg"]

[Text]

ADMIRAL ENGINEER Aksel Ivanovich Berg (born November 10, 1895), an outstanding Soviet scientist in the field of radio engineering and cybernetics, Academician and Hero of Socialist Labour, after graduating from a naval school began service with the colours during World War I as navigator of the battleship "Tsesarevich." In the middle of 1916 he was appointed navigator of the British submarine E-8. At that time, as a rule, Russian officer-navigators were assigned to allied submarines operating in the Baltics.

While carrying out a mission and when the E-8 was submerged, the right main electric motor caught fire. The boat could not rise to the surface quickly enough and the crew suffered gas-poisoning. Only by a miracle did the crew get the craft to Helsingfors (now Helsinki) where Berg was taken to hospital. But soon he had to leave. The Germans were breaking through to Helsingfors. The sailors barely managed to get him out of hospital and pull him in through the window of the last train to Petrograd. A few days later the Great October Socialist Revolution broke out.

In Petrograd Berg attended gatherings and meetings, and gradually began to understand the grandeur, the scientific character and the justice of what had happened. V. I. Lenin's speech at the 1st All-Russia Congress of the Navy on November 22, 1917 impressed him greatly. Lenin highly appraised the revolutionary merits of the navyman, thoroughly analysed the current situation and pointed out the tasks facing the Party and the people. The main task, Lenin said, was to build a new socialist state.

The speech by the leader of the Party of Bolsheviks explained much to Berg and strengthened his faith in the correctness of the road he had chosen. He joined in active revolutionary work. Taking into consideration Berg's experience, he was appointed Assistant Flag-Captain of the Operations Department at the Baltic Fleet HQ.

This experience and good seamanship proved most useful to Aksel Berg when he took part in the heroic ice cruise of the Baltic Fleet ships in the winter of 1918.

Wishing to weaken Soviet Russia, the German Command decided to seize the main forces of the Fleet stationed in Helsingfors. With that aim in view a large detachment of German ships began to move towards the shores of Finland.

What complicated the matter was that the ships of the Baltic Fleet stood iced up without coal, food and the leading specialists. None the less, in those exclusively difficult conditions, the sailors of the Baltic Fleet fulfilled the order of the leader of the revolution — they guided more than 200 fighting ships and auxiliary vessels through the ice-fields. Among them was the legendary "Pantera," which fought in World War I, in the revolution, against the interventionists and participated in World War II.

In May-August 1918 Berg also served on the "Pantera." At the time it was commanded by an experienced submariner, Alexander Bakhtin.

Then, for a few years, Berg was engaged in restoring submarines. The "Rys" (lynx), "Volk" (wolf) and "Zmeya" (snake) passed through his hands. Doing repair work, he came across a wide range of problems and understood that what he lacked was profound engineering knowledge. With the consent of the Command Berg began to study at the Polytechnical Institute and then at the Naval Academy's Electrotechnical Faculty, where, for the first time, a radio engineering department was organised. Soviet power guaranteed Berg, as it did every USSR citizen, everything necessary to obtain a higher education and later — to do successful scientific work.

The young officer understood that radio engineering presented enormous possibilities. He dreamed of reliable radio communication for the whole navy and especially for

submarines. A submarine deprived of communication with the outside world could turn into a target for not only alien, but even its own forces. Before Berg's very eyes such an incident occurred when a submarine of the Russian Navy was damaged by its own patrol vessels. Shortly before that there had been a similar incident on the German side: a submarine had been sunk by one of their own submarines.

Aksel Berg was carried away by the idea of radio-wave reception under water. He tried to devote himself to it, not suspecting the numerous difficulties facing underwater radio communication. Even now reception at great depths is difficult. Today as before very long waves are used for underwater radio communication. Complicated and bulky aeriads are needed for work with them. It was only natural that at that time Berg could not solve the problem, but radio engineering had become part of his life.

Today it is hard to imagine the time when radio engineering simply did not exist. Radio and A. Berg can be said to be of the same age. A. S. Popov's* decisive experiments became known in 1895. The great Russian scientist was not only the first to use electromagnetic waves for communication, but the first also to test radio communication in the navy. He was also the one who expressed the supposition that electromagnetic waves could be used for radiolocation.

Gradually it became clear that radio engineering offered prospects of a real revolution in military matters. This was confirmed by World War I. Primitive as radio-telegraph apparatuses then used were, they helped to maintain communication over hundreds of kilometres.

After the victory of the Great October Socialist Revolution and the ending of the Civil War (1918-20), the Soviet state did everything possible to strengthen the country's defence potential and to equip the Armed Forces with the most up-to-date weaponry and radio equipment.

In 1927 A. Berg was entrusted with the work of equipping the navy with new means of communication. He proposed to install on ships special types of radio stations, calculated for definite capacities and frequencies. They were to be strictly standardised and adapted for work on ships and submarines in conditions of excessive humidity and intense vibrations. This proposal was supported by the well-known Soviet military leaders M. Tukhachevsky, K. Voroshilov and A. Yegorov. The programme was approved.

The navy's first system of radio communication equipment was completed in 1934. Four types of radio transmitters from 50 W to 7.5 kW capacity were produced. Definite types of stations were installed on the respective classes of ships. Unlike the former long-wave stations, the new stations worked on medium waves. The constructors provided them with a convenient mechanism for switching one waveband range to another, from reception to transmission and vice versa.

* A. S. Popov (1839-1906) — Russian physicist and electromechanic, inventor of wireless electrical communication (radio communication).

The Soviet Government assessed highly the system of radio equipment of the navy. Berg and some others were awarded the Order of the Red Star, which had just then been instituted.

Soon after the first system, a team of constructors headed by Berg created a second one. It made wide use of short-wave and even ultra short-wave bands. New systems of communication were introduced into the army too.

Parallel with the equipment of the army and navy with new means of communication, work on radiolocation, with which the name of Aksel Berg is also associated, was developed.

Devices which were prototypes of modern radars appeared long ago. But work in the field of radar remained for a long time in the experimental stage. Only in the early 1930s, when radio tubes capable of generating short waves which could be reflected from obstacles, were created, did work on radiolocation begin to develop in the country's various laboratories. In 1935 a small airplane was reliably located at a distance of 5 to 6 kilometres. Then — up to 20 kilometres, and by the beginning of the Great Patriotic War (1941-45) the operational radius of the RUS-2 station was 150 kilometres.

The war showed the effectiveness of the new weapon, especially in the air and at sea.

For several years, holding various leading posts, A. Berg coordinated this work. In a short period of time a powerful radio industry, which made it possible to equip the Armed Forces with reliable radar systems, was created in the USSR. It is hard to overestimate the contribution made by A. Berg, who from 1943 to 1944 was Deputy People's Commissar of Electrical Industry, and from 1943 to 1947 Deputy Chairman of the Council on Radiolocation. From 1951 he headed the Institute of Radio Engineering and Radio Electronics of the USSR Academy of Sciences.

As Deputy Defence Minister of the USSR (1953-57) Admiral A. Berg devoted much of his strength and energy to increasing the might of the Soviet Armed Forces. A number of research institutes and enterprises which played an important role in raising the country's defence potential were established under his leadership.

Unusually wide was the scientist's creative range. He was Chairman of the All-Union Scientific Council on Radio Physics and Radio Engineering of the USSR Academy of Sciences and at the same time headed the Scientific Council on Complex Problems of "Cybernetics" under the Presidium of the USSR Academy of Sciences.

The Council's activities were many-sided. Modern cybernetics has penetrated practically into all fields of science that were engaged in problems of control. It has an especially wide application in engineering, economics, biology, medicine and the military field.

Ecological problems also worried the scientist. As a man born in the last century, he clearly saw not only enormous

achievements of technological progress, but also the debit side. Water and air are contaminated, hundreds of species of living matter have been destroyed, the woods are disappearing and the soil is a prey to erosion. Academician Berg considered the conservation of natural surroundings to be one of mankind's essential problems and a necessary condition of progress, and that therefore it should be regarded as one of the highest goals of human activity.

...Aksel Ivanovich Berg passed away in 1979. But the name of this outstanding scientist and true son of the Communist Party who dedicated his life to the service of the Motherland will forever remain in the hearts of the Soviet people.

COPYRIGHT: "Soviet Military Review", No 7, 1981

CSO: 1812/028

ARMED FORCES

REGULATIONS, TRAINING, AND DISCIPLINE

Moscow SOVIET MILITARY REVIEW in English No 7, Jul 81 pp 29-30

[Article by Col A. Burykh: "In the Spirit of the Regulations"]

[Text]

DEAR ALEXANDER Vasilyevich! Much time has elapsed since my service with the colours, but mentally again and again I return to my company. I don't want to lose anything of what I learned in the army — inner discipline, sense of obligation and conscientiousness. Service in the forces was a serious school for me...

These lines are from a letter of Senior Sergeant (Reserve) A. Amelchuk to Major A. Glebov. Many commanders and political workers of units and subunits receive similar letters from servicemen in the reserve.

Military service in the Soviet Union is called a school of labour, physical hardening, moral purity, courage, patriotism and comradeship. By its nature and purpose it does indeed create conditions promoting all-round favourable influence upon a man. Full use is made of these possibilities in many army and navy units. Factors which contribute to success are organisational work in the subunits and provision of a scientific basis of training and education in the spirit of the regulations.

Training and education are inseparably linked with the strengthening of discipline. The development of military science, new equipment and weaponry and deep changes in the character of battle have raised still more the significance of organisation and order. The notion of military discipline has become more versatile. Each serviceman's personal responsibility for fulfilling his duties and commanders' and superiors' orders with precision and efficiency has grown.

The regulations are the basis of the servicemen's daily activities. Putting the regulations' requirements into practice means resolving more rationally and purposefully the problems of service, the everyday life and the organisation of the training and educational process.

There are several all-arms regulations in the Soviet Armed Forces — Interior Service Regulations, Disciplinary Regulations, Garrison and Guard Duty Regulations, Drill Regulations and also Naval Regulations.* Experience convinces us that the stricter the observance of the regulations in subunits, the higher their combat readiness, organisation and order.

Take the tank battalion commanded by Major L. Khombak, for example. It shows high results from year to year at all work check-ups. How is this stability of success explained? First of all by efficient organisation of the battalion's everyday life, the rigid rhythm of training and study, high exactingness towards the men, concern for the satisfaction of their needs and cohesion of the unit. In the struggle to fulfil the requirements of the regulations, the commander, headquarters staff and Party organisation pursue a common line, not contenting themselves with what has been achieved and not slackening their efforts.

The battalion's experience shows how important it is for a unit and for the education of the men that relations in the unit genuinely conform to the regulations. An exacting attitude to one another, mutual respect, readiness to help one's comrades and intolerance towards deviations from service routine — all this has created the basis for fruitful combat labour and successful training and studies in the battalion. Major L. Khombak and the other officers have succeeded in uniting the men of the unit into a friendly combat family.

The ideological and social unity characteristic of the Soviet Army and Navy personnel, the high general educational level of the soldiers, sailors, sergeants and starshines and their profound understanding of their duty play a decisive role in the education of units. It should also be noted that in every subunit the men have their own particular characters and habits. The officers also take into account the fact

* See "SMR" No. 9-79, No. 11-79, No. 12-79, No. 1-80, No. 3-80.

that when they are called up for service the young men are lacking in basic training and experience and in some cases not in a position to shoulder the burdens and privations inevitable in the service. To have a constant influence on a collective, to foster a healthy moral atmosphere in it, to notice the first signs of the appearance of undesirable tendencies and to prevent them is an art, which every Soviet officer strives to acquire.

The officers of the battalion under Major L. Khombak talk to their subordinates simply and frankly, without evading the many complexities of service in the army and without stinting their praise. The men of the battalion are always in a good mood. By showing personal examples of a respectful attitude to the regulations, the battalion CO and the other officers inspire the subordinates to perform their duties conscientiously. Strict observance of the daily routine, the officers' unfading attention to guard duty, interior duty details, the external appearance and military smartness of the men, the briefing of sergeants on questions relating to maintenance of cleanliness in the barracks, the holding of morning inspections, good maintenance of arms and equipment — all this contributes to convincing the men that the provisions of the regulations are obligatory elements of the unit's daily life.

Big efforts are needed on the part of the commander and the headquarters staff to keep up regulation order. When once established, this order becomes an effective factor in the men's education. Observance of the provisions of the regulations, which reflect the norms of communist ethics and morality and socialist social life, becomes an inner necessity for the men. In places where there is better organisation and discipline stricter, men's active attitude to life is revealed more vividly.

The officers consider themselves as the defenders of regulations order and value it highly. This considerably influences the effectiveness of military education. They adhere strictly to the recommendations of pedagogics on this score and bear in mind that if applied incorrectly the provisions of the regulations cannot attain their end. For example, the regulations require that not a single misbehaviour of a subordinate be left without due attention. Some commanders believe that the stricter their reaction to misbehaviour and the sterner the punishment the better it is. Experience refutes this.

For a long time the company commanded by Senior Lieutenant V. Khankovsky was excellent. But then it was taken over by a new commander, an officer whose professional training allowed him not only to maintain the results already achieved but to improve them. But with time the unit began to deteriorate. This was largely the fault of the new commander. What prevented him from developing those achievements? First of all, the striving to build mutual relations with his subordinates on purely "rigid" positions.

In connection with this the following thought expressed by L. I. Brezhnev in his book "Rebirth" is instructive:

"In general, I have never accepted any rude, vociferous or what might also be called "strong arm" method of leadership. When a man is scared, he will eschew any responsibility. What we needed was not the shackling of initiative, but, on the contrary, encouragement for the most broad-based initiative."

The battalion CO and Party organisation helped the young company commander to work out the correct style of work. The effect was immediately felt: the company again became one of the best in the unit.

In training and educating subordinates much depends on the moral atmosphere and mutual relations in the officer environment itself. If the commander, working with yesterday's graduates of military schools, evaluates their labour mainly negatively, it is hard to work in such conditions with heartfelt enthusiasm.

In units and subunits where regulations order is the norm of life, the organisation of the service itself does not permit the men to slacken and work nervously. On the contrary, it promotes search and tight discipline. One always feels satisfaction in the motorised infantry unit where Major V. Raslaikin serves. Here they see to raising the men's personal responsibility for assignments and for the complete and good-quality fulfilment of the regulation requirements. Each officer, as the saying goes, rises to the occasion and works with zeal. Accordingly the unit too lives a well-tuned, measured life and successfully resolves all tasks facing it. The strengthening of regulations order is inconceivable without a profound study by the officers of the obligations laid down by the regulations — general obligations concerning all servicemen and those determined by the appointment held. The commanders pay special attention to this aspect of the matter when carrying out regular tests of the knowledge of the regulations, and try to see that every serviceman does and does well everything that the regulations oblige him to do.

The entire structure of the service here contributes to raising combat readiness, field training and combat organisation of the subunits. Newly called-up soldiers make their first acquaintance with the unit in the Room of Combat Glory. Stories of the feats of the front-line fellow-servicemen, of peace-time traditions, the ceremonial transfer of equipment, presentation of arms and observance of combat rituals — are all combined with deep thematic studies of the regulations. Political and educational work, which is based on political studies, is also diversified in its forms. Here there are lectures, disputes, question and answer evenings, meetings with army veterans and gatherings of excellent servicemen. In the course of the officers' professional studies questions of military pedagogics and the education of the men in the spirit of collectivism and combat comradeship are discussed regularly.

Great attention is paid to improving the servicemen's everyday life, which in itself exerts a strong educational influence on the men. In the barracks everything is according to the regulations: perfect cleanliness, excellently-appointed rooms of everyday services and store-rooms. The soldiers' mess-hall is light and cosy. Their tea-house is decorated in good taste. Here, over a cup of tea, in an unconstrained atmosphere, disputes are held and books and movie-films discussed. All this is very important for educational work, whose complex nature presupposes a model organisation of life in the armed forces.

The experience of foremost units and subunits proves that to constantly strengthen the regulations order and raise the ideological and educational role of the service means to raise the effectiveness of the ideological and politico-educational work in every link of the army organisation.

COPYRIGHT: "Soviet Military Review", No 7, 1981

CSO: 1812/028

ARMED FORCES

RESERVE OFFICER TRAINING DISCUSSED

Moscow SOVIET MILITARY REVIEW in English No 7, Jul 81 pp 34-35

[Article by A. Antonov: "Training Reserve Officers at Civilian Higher Educational Establishments"]

[Text]

The deputy battalion commander summed up the results: "First place in socialist emulation goes to Lieutenant Akimov's platoon..."

Success did not come to this young officer overnight. The first few steps in a commander's career involved serious responsibilities and hardships. They are especially difficult, if the commander has not completed a special military school. This was the case with Lieutenant Vyacheslav Akimov. An engineer by profession, he received training only from the military department of a civilian institute. He was called up into the army as an officer for two years. Many things did not work out as they should have done, and in the beginning he had to learn the hard way. However, when difficulties arose he always felt the helping hand of more experienced comrades, regular officers. They spared no pains to help and teach Vyacheslav all he needed to know. Finally, the lieutenant showed what he could do as an officer — his platoon was found to be the best.

His service under the USSR Law on Universal Military Duty passed quickly. But Lieutenant Akimov did not go into the reserve. He had developed a liking for military service with all its hardships and joys. He filed an application to be accepted in the regular army. And his request was granted.

The proportion of such officers in the Soviet Armed Forces is not large, because it is mainly the military schools that provide the Party, political, engineer and technical officer personnel. But, the military training departments of civilian higher educational establishments also provide competent officer personnel for service in the army and navy.

The USSR has always paid serious attention to the training of reserve officers at civilian higher educational establishments. In 1926 the Soviet Government adopted a special decision to that effect. In fulfilment of this deci-

sion higher pre-conscription training was introduced at civilian higher educational and secondary technical schools and so-called military training classrooms were opened there. Later a whole range of other decisions was taken to meet the defence needs of the country and to make fuller use of the broader possibilities offered by civilian higher educational establishments. Their purpose was to improve the level of reserve officer training. For instance, during the Great Patriotic War (1941-45) this made it possible to train a large number of subaltern commanders at civilian higher educational establishments.

The programme for training reserve officers in military training departments includes a thorough study of special subjects and, in addition, knowledge of the military regulations and manuals, elements of march drill, shooting, physical training and tactics. The training is so organised as to enable the students to acquire the necessary military skills. Thus, before the training period begins the department issues a special order appointing platoon commanders, mainly from students who have done a period of active service in the army. All the students have to take turns as section leaders in order to acquire definite command skills.

Every day officers of the day are appointed for platoons (study groups) and the department. They report to the instructors on the readiness of students for studies, watch over the observance of the daily routine and discipline requirements, and see to it that the classrooms are kept clean.

The students also receive special military training according to the specialisation of the institute (university). As a rule, the lecture halls and classrooms of the military departments are provided with excellent training facilities which are constantly improved by rationalisers.

The teaching staff of the military training department consists of officers on active service, reserve and retired officers, civilian employees of the Soviet Army with higher

education and previous experience of military service corresponding to the type of military training at the given higher educational establishment.

Military departments maintain constant contact with military units, establishments, and military schools, which organise the practical training of students in the skills essential for the execution of officer duties. Another form of contact between military training departments and the army is correspondence with former students doing their active service. The instructors frequently read letters received from those serving in the army to their students and tell them about the authors.

An important task of military training departments, and of higher educational establishments in general, is the military and patriotic education of young people. A reserve officer must be not only a good specialist, but also, and above all, a patriot and a fighter prepared at any time to take up arms in defence of his Homeland. Higher educational establishments have excellent possibilities for military patriotic education. Practically every higher school has a museum or a room of combat glory. Meetings with veterans of the revolution, war and labour are organised and special talks and thematic evenings are conducted for the students. In the higher schools the students take an active part in YCL and youth marches to places of revolutionary, combat and labour glory of the Soviet people.

These combined efforts enable the military departments of civilian higher educational establishments to train reserve officers effectively, organise training, education, research in military subjects, and work on methods of training. This also helps them raise the professional level of the instructors in these subjects.

Among the higher schools whose former students have shown excellent results in military service is the Order of the Red Banner of Labour Moscow Highway Construction Institute. Highly qualified engineers who graduated from it recall with gratitude the instructors of its military training

department. And not only because they received there a sound knowledge of military subjects and developed their readiness to defend the Homeland. The instructors of the military training department developed also the students' will power and organisational skills, which are essential in civilian life as well as in the army.

The military training department of the Moscow Highway Construction Institute has developed splendid traditions. It is staffed with an excellent team of communist officers. Among them are Lieutenant-Colonel Engineer V. Konopatsky, senior instructor, an expert in training method, and Senior Lieutenant A. Machulko. Every instructor has made several rationalisation proposals. Some have inventions to their credit. But the department's main achievement is training efficient reserve officers.

Military training departments have been set up at civilian higher schools to meet the country's defence interests. Reserve officers are called up for a definite period of service which is strictly regulated by the Law on Universal Military Duty. Article 61 of the Law stipulates that by order of the Minister of Defence of the USSR a reserve officer may be called up for service up to the age of 30, including graduates of civilian higher schools. In time of peace the period of active service ranges from two to three years. Officers trained at civilian higher schools are steered in the army, where they acquire the experience essential for practical work in their military speciality. After their period of service they are honourably discharged to civilian life to work in the national economy. Those who wish may continue to serve in the army as regular officers. This is highly important for raising the defence capacity of the country and reinforcing the officer reserve.

COPYRIGHT: "Soviet Military Review", No 7, 1981

CSO: 1812/028

ARMED FORCES

WW II BATTLE FOR SMOLENSK DESCRIBED

Moscow SOVIET MILITARY REVIEW in English No 7, Jul 81 pp 39-41

[Article by Col A. Galitsan, Cand. Sc. (History): "Battle of Smolensk"]

[Text] The Battle of Smolensk (July 10-September 10, 1941) has a special place in the history of the Great Patriotic War. The Nazi Command planned to strike a powerful blow on the Smolensk-Moscow line of advance and capture Moscow on the move. The carrying out of this mission was considered as most important condition for fulfilling the "Barbarossa" plan, whose aim was the "lightning" defeat of the USSR.

The Battle of Smolensk developed on a frontage of up to 650 km and 250 km in depth. In character it represented a complex of offensive and defensive actions of four Soviet fronts against the Nazi Army Group Centre and some of the forces of Army Group North.

The battle began in conditions by no means advantageous for the Soviet forces. When it started formations of the Western Front under Marshal of the Soviet Union S. Timoshenko, whose mission was to prevent a breakthrough of the enemy to Moscow, were in a difficult position. Divisions which had been retreating from the frontier areas and were exhausted by defensive battles, were withdrawn to the rear for reforming and bringing up to strength. New formations and units were only arriving from the hinterland and were not yet completely concentrated and deployed on the line of the middle course of the Western

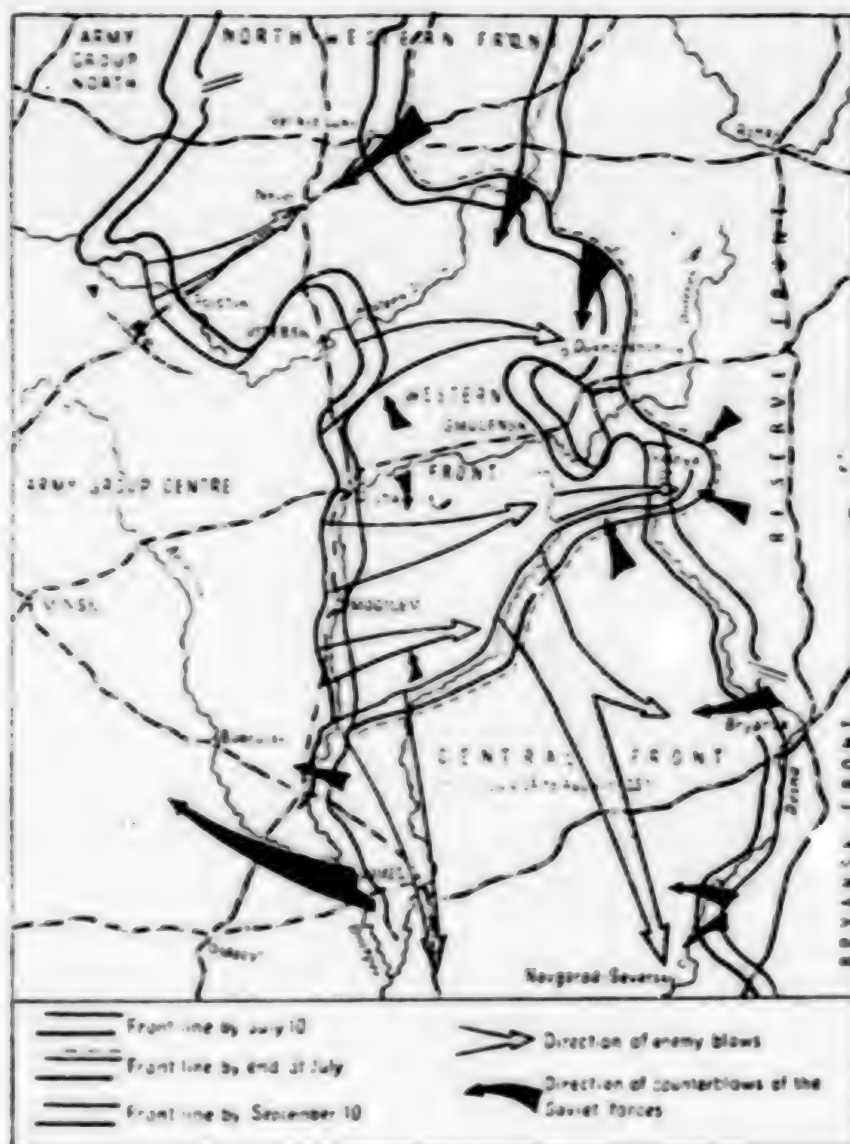
Dvina and the Dnieper. Many of them had to engage the pressing enemy immediately on arriving.

All in all some 24 divisions composed the first echelons of the Western Front's armies. On average each of them defended a line 25-30 km wide. By the beginning of the battle they had not yet managed to create reliable deep defences.

The Nazi Command assigned Army Group Centre the mission to surround the Soviet forces defending the line of the Western Dvina and the Dnieper, to capture the area of Orsha, Smolensk and Vitebsk and to open for themselves the shortest road to Moscow. As pointed by Halder, Chief of General Staff of the Nazi ground forces, they hoped, "after destroying the Russian Army in the Battle of Smolensk... to cut the railway leading to the Volga, and to capture the whole of the territory up to this river," so as later on "by raids of mobile formations and aviation to destroy remaining Russian industrial centres."

On July 10, the Nazi forces, profiting by their enormous superiority in men and equipment, carried out a deep breakthrough in the areas of Polotsk, Vitebsk and north and south of Mogilev. They strove to develop the attack east of the Dnieper. The Soviet Command took urgent measures to stop the enemy. On July 13, the 21st Army under General F. Kuznetsov, delivered a counterblow in the Bobruisk sector. As a result of a successful advance it created a threat to the rear of the enemy 2nd Tank Group. That was a complete surprise for the Nazi Command, who hastily transferred there two army corps from the 2nd Army, which by the end of July stopped the advance of the Soviet forces.

Fierce fighting with the enemy major grouping bidding to reach Smolensk went on in the centre of the Western Front. The 20th Army under General P. Kurochkin continuously counterattacked the



enemy forces who had enveloped its flanks from Vitebsk and Orsha, but was unable to contain the mounting onslaught. Enemy tank divisions bypassed the units of the 20th Army and broke through to Smolensk. In bloody battles the enemy captured the city on July 16.

After this success the Nazi Command concluded that the forces of the Western Front would not be able to put up any serious resistance and therefore Army Group Centre would be able to capture Moscow with its infantry formations. They

decided to send the 2nd and 3rd Tank groups to support Army Groups South and North respectively, whose advance was being increasingly slowed down and on a number of sectors stopped as a result of the stubborn resistance of the Soviet forces. However the enemy concept was frustrated.

The Soviet Command took energetic and consistent measures to stop and throw back the enemy.

During the second half of July the fighting in the area of Smolensk and east of it was exceptionally hard. By July 27, the Soviet forces

threw back the enemy forces and captured the northern suburb. In response the enemy delivered strong flank blows. The formations of the 16th and 20th armies suffered heavy losses breaking through to the main forces. However, from July 21 to August 7, the Soviet Command managed to organise a counter-offensive in a westerly direction. Forces of the reserve armies were called upon and from them were formed several operational groups. Their offensive in cooperation with the 20th and 16th armies, fighting in the enemy rear, was to lead to the destruction of the enemy strike grouping north and south of Smolensk.

Though during the counteroffensive the Soviet forces were unable to rout the Smolensk enemy grouping, they checked the offensive of the enemy Army Group Centre in the direction of Moscow, helped the 20th and 16th armies to break out of encirclement and withdraw its main forces beyond the Dnieper.

The enemy sustained heavy losses. By July 23 tank and motorised divisions of the enemy Army Group Centre lost up to 50 per cent of their strength, and infantry divisions up to 20 per cent of their men. This forced the Nazi Command, already in July 1941, to use almost half of the strategic reserve (ten and a half divisions out of 24) to reinforce Army Group Centre.

On July 28, the General Staff of the Wehrmacht ground forces admitted in its directive that the use of mobile formations on the Soviet-German front was subordinated to laws different from those of the campaigns in the West. It concluded that until the main forces of the Soviet Army had been defeated it would not use tank and motorised formations "with far reaching operational aims."

The Hitler Command faced the necessity to replenish Army Group Centre and to remove the threat to

its flanks from north and south. Otherwise the advance towards Moscow could not continue.

On July 30, the Nazi forces on the central line of advance assumed the defensive. Now the main efforts of the Nazis were shifted from the central sectors of the front to the flanks, where their advance had also slowed down. In those days the "Barbarossa" plan was changed and the 2nd Tank Group and the 2nd Army were transferred from the central sector to the southern. They were assigned the mission to strike at the rear of the main forces of the South-Western Front which had immobilised Army Group South and continued to hold Kiev and the Dniester line.

To frustrate the enemy intentions, during August and the first half of September, the forces of the Western Reserve (formed on July 30) and Bryansk (formed on August 14) fronts delivered several heavy blows on different sectors. Bloody battles ensued in the area of Yelnya — an advantageous jumping off ground for the enemy advance to Moscow. Early in September the enemy grouping at Yelnya was routed. The Nazi forces also suffered a defeat near Dukhovshchina. However, the prolonged and stiff battles had exhausted the offensive capabilities of the Soviet forces. By order of the Supreme Command GHQ, on September 10, the Western Reserve and Bryansk fronts assumed the defensive.

The constantly growing resistance of the Soviet forces and their heroic fighting lowered the enemy rates of advance in the central sector. In July it was only 6-7 km a day as compared with 30 km in the first days of the war. The enemy was forced to disperse his troops on an enormous front — from Velikie Luki

to Mozyr. The main forces of the 3rd Tank Group which the enemy intended to send to Leningrad, were immobilised in the central sector. This considerably eased the situation in Leningrad.

Thus ended the Battle of Smolensk, which had lasted for two months. By its scope and tenseness it was really enormous. Its main result was the frustration of the Nazi Command's calculations to break through to Moscow on the move. It was the first time during the Second World War that the Nazi army was forced to stop its offensive on the main sector and to assume the defensive. The results of the Smolensk battle signified the most important stage in the failure of the Nazi Blitzkrieg plan. The miscalculations of Hitler's strategists in estimating the Soviet state's power and the might of its Armed Forces were vividly revealed.

Early in August Hitler, having heard a report at the Headquarters of Army Group Centre on the heavy losses, particularly among the 2nd and 3rd Tank groups, said that if he had been sufficiently informed on the strength of the Soviet Army before the war it would have been far more difficult for him to take a decision to attack the USSR.

The Soviet Command won time to build up forces for the subsequent struggle. The Soviet officers and men, many of whom took part in battles for the first time, acquired combat experience, learned to fight a strong, experienced and perfidious enemy. They frequently put to flight an enemy who when fighting in the West had never known what retreat meant.

In the beginning of the Battle of Smolensk the Soviet forces received a new powerful weapon — rocket artillery. On July 14, in fighting near

Orsha the battery under Captain I. Flyorov fired the first salvo at the enemy. At Smolensk the Soviet Guards — the flower and pride of the Armed Forces — were born. On September 18, 1941 four infantry divisions of the Western Front: the 100th, 127th, 153rd, and 161st commanded respectively by General I. Russiyanov, Colonels A. Akimenko, N. Gagen and P. Moskvitin were the first to be awarded the title of Guards divisions. The fighting men of these formations displayed particular staunchness and heroism in battles against the enemy, and demonstrated high combat skill.

The severe trials revealed such beautiful features of the Soviet people as selfless devotion to the Motherland, fearlessness, readiness to fulfil their duty to the end. For feats of arms seven fighting men of the Western Front were awarded the title of Hero of the Soviet Union, and nearly one thousand were decorated with Orders and medals.

The fierce fighting in the border areas, the heroic struggle for Brest and Odessa, Leningrad and Kiev, Smolensk and thousands of other cities and villages laid the foundations of the future victory of the Soviet Army in the Battle of Moscow.

COPYRIGHT: "Soviet Military Review", No 7, 1981

CSO: 1812/028

ARMED FORCES

ARMY GEN A. P. BELOBORODOV REMINISCES IN INTERVIEW

Moscow SOVIET MILITARY REVIEW in English No 7, Jul 81 pp 49-51

[Interview with Army Gen Afansy Pavlentyevich Beloborodov: "About Some Military Leaders"]

[Text]

General of the Army Afansy Pavlentyevich Beloborodov, who was twice awarded the title of Hero of the Soviet Union, began his military career in the Soviet Army when a lad of sixteen. This was in November 1919 near Irkutsk.

Divisional commander Colonel Beloborodov's "acquaintance" with Hitler's invaders took place on the battlefield near Moscow. And Victory Day found him commanding an army near Danzig in Eastern Pomerania.

The reminiscences of Marshal of the Soviet Union Konstantin Konstantinovich Rokossovsky contain the following lines:

"The arrival of the 73th Infantry Division from Siberia gladdened us. It was brought to the Moscow area by a wonderful military leader, Colonel Beloborodov... It is hard to say how timely the Siberians joined our forces! If the division under Major-General Ivan Vasilyevich Panfilov played a major role near Volokolamsk then a no less important contribution to the decisive battle for Moscow in November was made by Colonel Afansy Pavlentyevich Beloborodov's Division..."

These lines determined the first question in our interview with General of the Army Beloborodov.

Please tell us about meetings with the distinguished Soviet military leader.

"While still on the way to the front — our division was transferred from the Far East to Moscow — my attention was attracted by the repeated mention in the reports of the Soviet Information Bureau of 'Commander Rokossovsky's

units' defending Moscow. Hearing this, I recalled the year 1929, Dauriya and the conflict on the China-East Railway provoked by the Chinese militarists.

"It was then that I, political instructor of a company, saw Brigade Commander Rokossovsky in action. His 5th Kuban Cavalry Brigade made a swift thrust into the rear of a large enemy grouping. The cavalry attacked Chelainur railway station from the south and the infantry, including our 107th Vladimirsky Regiment, from the north. The enemy was surrounded and routed. For this battle Rokossovsky was awarded the third Order of the Red Banner. What did we know about him at that time? He was an expert at dealing daring and almost always unexpected blows at the enemy, and a man of exceptional valour. But in those days I saw Rokossovsky only a few times and in passing at that. My personal meeting with him took place near Moscow.

"Soon after arriving at the front, Commissar Mikhail Bronnikov and I were summoned to the Commander of the 16th Army, whose headquarters were located in a village near the Volokolamsk highway. Rokossovsky's outward appearance had not changed much. His military bearing was impeccable and his uniform fitted him perfectly. He was restrained and calm. He did not like to be in the public eye, as the saying goes, but nevertheless always attracted the attention of those around him.

"I made a brief report about the first combat operations. Rokossovsky passed a few remarks. They concerned anti-tank defences. I remember one sentence of his: 'To beat off German tanks is our main objective.' We know that in the Battle of Moscow Rokossovsky proved expert in creating deep antitank defences.

"Tomorrow we're starting a partial offensive," said the Army Commander, "We'll go over it presently."

"Then turning to "Pravda" correspondent Stavsky, who was in the room at that moment, he resumed his conversation, apparently interrupted by our appearance.

"That can happen, Vladimir Petrovich. For instance, a timid poet writes courageous verse and a slovenly engineer invents the most sophisticated mechanisms. You, of course, are right: a person's outward appearance is very often in contradiction with the content of his creative work. But there is a sphere of creative work where such dualism is out of the question. It is our military profession. An iron law rules here: do as I do, says a commander. Be able to shoot as I do. Be able to win victory as I do. And, finally, if your last hour comes be able to meet it as I can... Am I not right, Divisional Commander?"

"Yes, you are!" I answered forgetting the Regulations, struck by clear and forcible wording of his views.

"I see you're not a novice at the front.

"This is my second day, Comrade Commander.

"And where did you win the Order?"

"Near Chalaïnur. In 1929.

"Ah-ah!" he nodded and turned to his adjutant: "Order tea to be brought for the comrades. The stronger the better. These Siberians are good connoisseurs in tea." And again turning to me and Bronnikov said: "In the meantime you report on your division."

"I told him about my formation and gave a brief description of the personnel.

"Setting us our mission, Rokossovsky drew special attention to fighting tanks.

The German tankmen don't like or know anything about fighting in woods and marshlands," he said. "They prefer space and good roads. And this must be taken account of when choosing tank-dangerous directions. Don't disperse the artillery along the entire front, group it along roads and deep in the interior. Form tank-hunter detachments in each battalion. The tanks are our main enemy now. To deprive the Germans of them means to seize the initiative."

Was this your only meeting with Rokossovsky?

No, he often came to the division. He wanted to know about combat operations and also what it was like at the front, the life of the soldiers. Once in winter, during the fighting near Moscow, General Rokossovsky gave orders to take him to one of the infantry regiments. There he studied the western bank of the river through his field-glasses for a long time. An infantry company of the regiment had consolidated there."

"What's the strength at the bridgehead? he asked.

"No. 3 company and one 45-mm gun," answered the regimental commander.

"How many fighting men?"

"This morning there were forty, counting the gunners."

"Communication?"

"Cut off. An hour ago the Germans attacked the height..."

"Rokossovsky examined attentively through his field-

glasses the depression which stretched from the western bank of the river to the foot of the height. When he turned to me I immediately understood what he was thinking of doing."

"Let's go there with the signalman," he said in a tone tolerating no objections.

"We got to the height safely. Found the dugout. A wick lamp made from a cartridge-case was smoking. Several men, huddled together, were sleeping on the bare ground. Four were sitting on ammunition boxes cleaning their weapons. Seeing us they jumped up. A young lieutenant stepped forward. He did not know the Army Commander by sight and didn't see his general's badges of rank — Rokossovsky wore a leather raglan — so he reported to me. Battle duty here was proceeding as on guard: one shift was on duty in the trenches, another on watch in the dugout and a third was having a rest."

"Freezing cold here!" — noted Rokossovsky.

"The nazis don't let us into the forest to gather firewood. We save every chip we can. We light a fire only for the sake of the machine gun, to heat water for it," the lieutenant reported.

"How do you warm up the food?"

"We don't. It's brought in thermos cases from battalion, but only at night and if it's dark. Yesterday, by moon, the food carrier had not got here — he had been killed. The nazis use an entire battery to fire at even a single man. You were lucky..."

"Rokossovsky talked to the men. When leaving he said to me:

"Recommend for awards all who distinguished themselves. In the award lists mark especially those who defended the bridgehead."

"At the Division CP I expressed my doubts to Rokossovsky concerning the visits to the forward area. Was it necessary to risk his life thus? He put his hand on my shoulder, smiled and said in a friendly tone:

"You yourself go to the defence lines, don't you?"

"Of course."

"Why?"

"With me it's different. A divisional commander is obliged to..."

"So is an army commander. When you've not been to the defence lines for a long time you seem to be missing something. You lose the feeling of contact, which must always exist between you and the men. We have here a small stove, and tea, but there they heat water only for the machine gun and have to chop frozen gruel with their knives..."

And did you have a chance to meet Marshal of the Soviet Union Zhukov?

"Yes, often. The meeting I want to tell you about is also an instance of a military leader's personal courage. It took place during the operation to liberate Velikie Luki. The Kalinin Front Commander General Purkayev rang me up at my OP. The 5th Guards Corps, which I was commanding at the time, formed part of that front."

"Konstantinov had gone out to you," said Purkayev. "Don't let him go near the forward area."

"I knew that Konstantinov was Zhukov's front-line pseudonym. I reported that the OP was located only eight hundred metres from the forward edge. Why should Zhukov go any further?"

"That's it. Don't let him go any further," ordered Purkayev.

"Zhukov arrived an hour later.

"What's on the Vorobetsky height?" he asked.

"Observation post of the commander of the 357th Division, Colonel Kronik," I answered.

"Is the field of view from there good?"

"Very good. In all directions..."

"A car! Two machine-gunners!" he ordered. "I'm going to Kronik."

"Kronik is waging battle on two fronts. His OP is next to the forward edge," I tried to object.

"Just what I need."

"The nazis are continually firing at his OP. It's dangerous..."

"You're saying the wrong thing."

"I'm responsible for you. Front Commander's orders..."

"You're responsible for your corps," Zhukov said severely.

"I rang Kronik up and told him who was coming. He got excited. It turned out that he knew Zhukov well from the time he had been in command of a cavalry squadron.

"When Zhukov returned and sat down to tea I said that he could have seen Kronik by ordering him to the corps CP."

"Oh, Beloborodov!" — he laughed. "Do you think I went to the height to visit Kronik? To meet an old fellow-mate is, of course, a nice thing, but I needed to go to the height not for that. I still don't know whether to send a mechanised corps into the gap. If so, from what direction? Today I have to report my decision to the Supreme Commander-in-Chief. I needed to go to the height for a reconnaissance."

Probably front-line roads brought you together with other outstanding Soviet military leaders!

"I also served under Ivan Khristoforovich Bagramyan, now Marshal of the Soviet Union, and met Marshal Vasilevsky. There's one incident I'd like to tell you about. It took place in Byelorussia. By launching strong counterattack the nazis managed to press some units of the 43rd Army, which was under my command at the time. One division was surrounded. A tank corps attempted to come to its rescue, but the enemy's dense antitank defences prevented it. Then I decided to launch a mass tank attack at night. I reported my decision to the Front Commander Bagramyan."

"A bold attempt! Dashing! Don't you think the tank corps

might end up without a single tank by morning?" said Bagramyan.

"There's no other way."

"Bagramyan said something, but not into the phone, apparently to Marshal of the Soviet Union Vasilevsky. Then I heard Vasilevsky's voice."

"What's this all about a night attack?"

"I again explained my decision and said that the tank-borne infantry would carry out the attack with head-lights turned on. Bagramyan talked it over with Vasilevsky and then said:

"Wish you luck, Army Commander!"

"When that conversation comes to my mind, I experience a feeling of profound gratitude to my superior comrades and leaders. For that decision they shouldered far more responsibility than I myself did.

Was the night attack a success!

"It went splendidly. The tankmen broke on a rush through the enemy's combat formation. We captured 1,200 prisoners, 60 guns of various calibres, 6 tanks in working order and much other machinery and equipment. The nazis left behind 80 tanks out of action or completely destroyed. Our losses were insignificant. Vasilevsky and Bagramyan came especially to see the battlefield."

"It's real shambles," said Vasilevsky, "well done!"

"And when Vasilevsky had gone a little ahead Bagramyan admitted:

"Vasilevsky and I couldn't get a wink of sleep. We were waiting for your report. It's no joke — a tank corps with head-lights turned on. It just doesn't tally with any of the Regulations..."

Comrade General of the Army, what are your impressions of the last days of the war!

"After a three-year interval I again fought under the command of Rokossovsky. I remember well reporting to him by telephone the arrival of the 43rd Army. I must admit I felt uneasy. But the Marshal's voice sounded quite joyful:

"Oh, it's you, Siberian? You've come to me again?"

"He said that as if we had only parted the day before. And my uneasiness vanished as though by magic. Rokossovsky hadn't forgotten anything and hadn't changed either."

"Von Zauken bothers me," said the Commander-in-Chief of the 2nd Byelorussian Front, "he makes us look back at our rear. It's good you've come. Pin him to the ground..."

"General von Zauken was in command of the 2nd German Army, which consisted of four infantry and one tank division, and also a number of independent regiments and battalions. The overall strength of the army was thought to be 20 to 25 thousand soldiers and officers, approximately the same as ours. But the data about the army was understated. When on May 9 columns of the surrendered 2nd Army stretched out, we counted 70 thousand prisoners.

"The reception of the prisoners was over on May 10. It turned out that there were over 140 thousand of them, including 12 generals and Army Commander Zauken."

"Can you imagine," Rokossovsky said to me, "how much trouble this army could have caused us, if they hadn't sat with folded arms?"

How do you explain, Comrade General of the Army, this passiveness on the part of the Nazi forces?

"It was a result of the enemy's heavy defeats, the shattering of his morale and disbelief in his strength. I remember asking General Zauken what they were counting on by holding the bridgehead near Gdynia and Danzig. He couldn't answer anything sensible. All the same, I wanted to understand what the matter was. Why did you sit, like mice in holes, I continued asking, when you had five soldiers against our one? Bad reconnaissance? "Everything was bad," he said, "it was the end. Great Germany didn't exist any more." Zauken dropped his monocle and fumbling about with it for some time, asked me: "And Fischhausen?" What about it, I asked, not understanding him. "Did the city remain intact?" Not much of it, fierce battles were raging there. "My God!" he exclaimed and began to cry. For the first time in life I saw a general crying. "Fischhausen is my native town," he explained, "my grandfathers and great grandfathers lived there. The family estate, park and cascade of ponds. I'm a born and bred Prussian nobleman. You can never understand that." No, I can't. I'm a peasant's son and a Communist. I was taught to work, to respect work and people, irrespective of their nationality. I can't understand why you, who have invaded us and reduced our cities and villages to ashes, are crying now that the war has entered your homes.

"In a word, we did not understand each other and, apparently, could not. He was very downcast — this sentimental baron, recalling over and over again his ancient house, the ivy-covered wall, the winter evenings at the fire-place. I listened to him and tried to imagine what would have happened to me if I had fallen into his hands in 1941...

"I had a few important questions to ask him but decided to postpone our conversation and invited Zauken to a meal. But even a glass of vodka did not cheer up the Prussian baron. He became absolutely limp and there was nothing to talk to him about.

"I was thinking of the future. The war with Nazi Germany had ended with the complete victory of the Soviet people, who had to rehabilitate their national economy destroyed by the war, to carry out grandiose plans of communist construction, ensuring a new upsurge of the country's economy and culture."

☆

The interview was taken by a special correspondent of the "Soviet Military Review" magazine.

COPYRIGHT: "Soviet Military Review", No 7, 1981

CSO: 1812/028

ARMED FORCES

DEVELOPING AND USING NATURAL ABILITIES

Moscow SOVIET MILITARY REVIEW in English No 9, Sep 81 pp 29-30

[Article: "Developing the Fighting Man's Abilities", by Maj I. Bulin]

[Text]

TWICE a year, in spring and autumn, soldiers, sailors, sergeants and starshinas are transferred to the reserve, after having completed their active military service determined by the USSR Constitution. Their place in the fighting formations is taken by young men who have reached the required age. They start military training with enthusiasm and great desire and show industry, diligence and persistence. But study is not equally easy for all: some master the programme faster, others more slowly. There are various reasons for this. The fighting man's attitude to his duty and combat speciality, his degree of consciousness, level of education, etc. influence the progress of studies and service. But the results depend more often on his abilities.

Abilities are such features and potentialities which help a person to enter one or another field of endeavour with success, to acquire knowledge, skills and habits faster and more easily and to use them in practice more effectively.

They are usually divided into general and special abilities. The first have to do with intellectual qualities — quickness of wit, good memory, development of attentiveness, creative imagination, keenness of observation, etc. Very likely these qualities are just as necessary to a rifleman as to a miner, scout or machine operator, driver or radio operator, tankman or pilot...

But a fighting man of this or that profession must have other abilities too — special ones. It is important, for instance, for a machine operator to have a keen sight and quick reaction, for a radio operator excellent hearing, for a dose-meter operator a developed sense of smell and sensitivity

to colour, for a miner a good sense of touch and precise coordination of movements. As regards a commander, besides other qualities he must certainly also possess organisational abilities and skill to guide his subordinates.

The concept of talent designates the degree of development of a personality's abilities. To be talented means to possess special abilities, which help to achieve progress and differ from others in their originality and novelty. One may be talented in the most diverse fields of activity. The peculiarity of talent lies in the high level of creativity in fulfilling a certain assignment or work. The famous pilot, thrice Hero of the Soviet Union Marshal of the Air Force Alexander Pokryshkin, for instance, fought 156 air engagements and shot down 59 Nazi planes during the Great Patriotic War (1941-45). The Soviet ace strove to carry out every engagement with the enemy creatively, "in his own way." Many tactical methods worked out and applied by him successfully, were later adopted by other pilots.

Abilities do not come to a person ready-made, as something inherent. They are formed in the process of labour. Their development depends on conditions of upbringing in the family and surroundings. In socialist society all opportunities exist for a person's all-round development of his talents.

Abilities are not only and not so much possession of some kind of talents as the basis of them. Commanders and political workers take account of this and strive in every way to develop the

fighting men's abilities. With the arrival of replacements in a unit or on a ship they ascertain the fighting men's interests, their inclinations, what subjects they found easier at school, whether they took part in hobby groups, what literature they read, the profession of the parents, whether they like it, and so on.

The teaching of various combat specialities develops corresponding abilities in the fighting men. If a soldier or sailor likes his speciality and strives to master it to perfection his abilities will develop better and, on the contrary, if he has no interest in it they will not improve. Commanders and political workers do all they can to get the fighting men to take an interest in the speciality they are mastering and to educate them to love their profession.

Socialist emulation helps to develop abilities. Various kinds of competition which give rise to a desire to score high ratings, play a big role in this. Voluntary social work is of particular significance too. Fulfilment of the duties of secretary of Party or Komsomol organisation, platoon agitator, member of propaganda collective, etc. develops in the fighting men abilities for organisation and the practice of propaganda.

Favourable conditions are created in the army and navy for developing scientific, engineering, artistic and other abilities of the fighting men. Many students of military educational institutions do research work in their free time. A cadet's military-scientific society formed on voluntary principles functions in every school. The rationalisation movement is developed in units and on ships. Army and navy inventors are provided with all the conditions necessary to display their creative talents. At their disposal are consultation groups, public designing offices and rationalisers' rooms, equipped for assembly, metal and turning work. The best inventions of the army and navy innovators are demonstrated every year at scientific-engineering exhibitions of works of youth. The awards bear witness to the value of that work. In 1978, for instance, 14 military collectives were awarded diplomas and 458 authors received gold, silver or bronze medals of the USSR Exhibition of Economic Achievements.

Fighting men make wide use of cultural and educational facilities to develop their creative talents. Servicemen play an active part in artistic amateur groups. Practically in every Officers' House and Soldiers' or Sailors' Clubs there is a

vocal, chorus, musical, dance or other circle. The skill of amateur artists grows year by year. The more gifted stage-amateurs later become professional artists. For instance, Senior Sergeant A. Zhukov began his career in art by taking part in amateur groups. Today he is an Honoured Artist of the Republic and a soloist of the Novosibirsk Academic Opera and Ballet Theatre.

Meetings with the country's professional creative collectives and leading masters of literature, cinema, theatre, variety art and painting have become a practice in army life. For instance, the personnel of a motorised infantry unit of the Order of Lenin Moscow Military District meet once or twice a month with workers of art, go to concerts and theatres. During the last few months alone the fighting men have seen "Vassa Zheleznova" by M. Gorky, "The Dawns are Quiet Here" by B. Vasilyev and other plays.

Universities of culture, various amateur studios, literary societies, etc. function in many units and military-educational institutions. For example, here is how the University of Culture, founded at the Red Banner Odessa Military District Officers' House works. Lessons there are conducted in four faculties, each for a definite category of students. Besides attending lectures, the students visit museums, exhibitions, acquaint themselves with the development of the Soviet theatre and cinema, the works of leading cinema producers and masters of the stage, and discuss the theatrical performances and films they have seen.

Army professional collectives have a great influence on the development of the servicemen's artistic talents. The men always like to attend performances of the Order of Lenin Moscow Military District Song and Dance Ensemble, stage performances by the Lvov Drama Theatre of the Soviet Army and other artistic groups. There is a good tradition according to which artists of the Order of Lenin Leningrad Military District Song and Dance Ensemble avail themselves of their tours to help amateur groups. They conduct lessons in units with soloists, dancers and reciters, and help musicians to arrange modern songs. At the initiative of the Ensemble Komsomol organisation a youth brigade has been formed to perform on small improvised stages and in units' Lenin Rooms.

There are ample opportunities for servicemen to develop their sport abilities. Sports sections function in every unit and on every ship, the fighting men going in for track and field and heavy athletics, boxing, fencing, swimming, wrestling

and so on. Army and navy athletes who have scored successes in competitions, improve their skill under the guidance of experienced coaches in the course of preparation for district, fleet and all-army competitions. Many army athletes are world record-holders, world or European champions.

Some servicemen-athletes fulfil voluntarily and without pay the duties of unit supernumerary coaches. Many of them later become highly qualified specialists. Private (Reserve) A. Prilepin, for instance, is today the head coach of the USSR heavy athletics combined youth team and a Candidate of Pedagogical Sciences. Ex-servicemen USSR Masters of Sport Ye. Kozlov and A. Uvarov have also defended their candidate's theses.

The favourable conditions existing in the army and navy for the development of talents ensure the success in forming all-round and harmoniously developed personalities. •

COPYRIGHT: "Soviet Military Review", No 9, 1981

CSO: 1812/26

NIGHT OPERATIONS IN GREAT PATRIOTIC WAR DESCRIBED

Moscow SOVIET MILITARY REVIEW in English No 9, Sep 81 pp 34-36

[Article: "Night Operations", by Col Z. Shutov, Cand. Sc. (History)]

[Text]

During the Great Patriotic War [1941-45] the proportion of night operations carried out by the Soviet Army constantly grew. From night attacks by separate units and subunits the Soviet Command passed on to operations by formations and major groupings using all fighting arms and services.

Experience testifies that units advancing under cover of darkness suffer fewer losses and carry out the assigned missions with better results.

This is understandable because darkness sharply reduces the enemy capability to estimate the situation, organise effective fire and undertake effective countermeasures. The attacking side carries out a concealed concentration of the necessary men and equipment and manoeuvre with them secretly. As a result surprise and high rates of advance can be achieved.

During the war the planning and preparation of combat actions were carried out in varying combat situations. But irrespective of this, the concept of a night operation (action) was remarkably simple and excluded complicated manoeuvres. Defining the direction of the main blow, the Soviet Command took into consideration, first of all, the possibility of achieving surprise and quickly capturing important enemy strong points. The character of the terrain and, above all, its trafficability for combat equipment and the availability of easily observable reference points was thoroughly studied. As a rule, the battle formation of the forces was deeply echeloned. This ensured the relief of one echelon by another and, as a result, continuity of combat actions at any time of the day.

A thorough preparation of the forces before the operation guaranteed success of combat actions. Up to 50 per cent of the exercises were carried out at night. In a number of cases units of infantry divisions operating in the second echelon trained by night and rested by day. Main attention during training of the men was paid to ability to maintain the direction of the advance by reference points or azimuth, to accuracy in hitting targets, use of illumination and signalling means, and to concealed approach to the objectives attacked.

Battle practice showed that the best results were achieved by units and subunits specially trained for night actions. There was good performance by reinforced infantry battalions and storm detachments and groups when breaking through enemy defences, and by advanced detachments and reinforced battalions when pursuing the enemy.

Of paramount significance was Party-political work. Night actions had a marked psychological effect on the men, their physical and moral condition. Therefore commanders and political workers informed the officers and men of the concrete missions, explained to them the peculiarities of night actions and analysed the experience of past battles. Subunits, vehicle and gun crews were reinforced with Communists who were seasoned fighters. At all stages of preparing and carrying out an operation (battle) commanders and political workers used words and personal example to inspire the soldiers with confidence and the will to carry out the combat mission at any cost.

Great attention was paid to organising cooperation. During daytime places for gaps in obstacles were chosen, the method of designating them and common reference points were defined, the commandant's service was organised and actions were coordinated as regards purpose, place and time. The staffs drew up tables of light signals, target designation and cooperation.

In order to maintain the direction of the advance besides natural reference points easily observable illuminated reference points and direction indicators (fires, tracer shells, illumination bombs, etc.) were organised on the main sector of advance. Sometimes the boundaries between formations were designated by searchlight beams.

The time of the offensive depended on the concrete conditions. In a number of large operations the forces passed over to the offensive in the first half of the night from positions in contact with the enemy for the purpose of breaking through powerful defensive positions. Sometimes the Soviet Command began it during the second part of the night in order to exploit success quickly in the morning.

Thus, during preparation for the Manchurian operation (August 1945) the 5th Army of the Far Eastern Front was superior to the Japanese forces 4.5-fold in artillery and mortars and 5.7-fold in tanks and self-propelled guns. There seemed to be an objective possibility to break into the enemy defences by powerful artillery fire, air strikes and attacks by infantry formations reinforced with tanks. However, preference was given to a noiseless night attack by the forward battalions. At 0100 hrs on August 9, during a storm shower, the battalions, observing complete silence, crossed the state border in the main sectors and penetrated deep into the Japanese defences. The offensive was so unexpected for the enemy that it caught many Japanese soldiers sleeping in their barracks. The majority of subunits were unable to take their combat positions in the pillboxes. By the morning the most important centres of resistance had been captured by the Soviet forces.

It was a more complicated matter to organise night actions when an offensive was already under way. The commanders and staffs had but limited time, especially as regards daylight hours. Therefore many questions concerning the operation (battle) — planning, organisation and cooperation were worked out simultaneously at several command and staff echelons. It is characteristic that preliminary working out of combat actions on

the terrain was mainly carried out on a tactical scale. Problems of planning fire blows at the enemy, illumination and logistic support were being solved in the operational links.

In most cases unit and formation commanders tried to attack as quickly as possible in order to deprive the enemy of the possibility to consolidate and bring up reserves. If the enemy managed to consolidate on the intermediate positions then the beginning of the attack was planned for the midnight or the second half of the night. This made it possible to organise the battle more thoroughly.

Of paramount importance was the achievement of surprise. For this purpose units attacked without artillery preparation. Naturally, the artillery was ready to give immediate support to the advancing forces. The artillerymen destroyed the discovered targets or delivered barrage fire to prevent reserves from being brought up to the area attacked. If the enemy was expecting the attack, a brief artillery blow was delivered.

Build-up of efforts was most frequently achieved by committing the second echelons, reserves and mobile groups of armies and fronts. For example, during the Bereznegovato-Snegiryov operation (March 1944) a mobile group of the 3rd Ukrainian Front was committed in the breakthrough area at 2200 hrs on March 6. The enemy, not expecting a new attack during the night after the stiff fighting, was taken unawares. During the night under pouring rain the mobile group advanced some 11 km thus ensuring the offensive of the main forces.

During the war the importance of advanced detachments and mobile groups in night actions constantly grew. Commanders and staffs tried to increase their fire and manoeuvre possibilities, and set them more complicated missions. Success, as a rule, attended those advanced detachment commanders who acted swiftly and daringly and found new forms of actions. For instance, small groups of submachine gunners were formed in subunits. Acting on a wide frontage in front of the advancing troops they delivered closely grouped submachine-gun fire and used hand grenades. As a result the enemy had the impression that the strong enemy forces were advancing. Besides, he was deceived as to the direction of the advance of the Soviet units and therefore demoralised.

The Soviet forces always strove to pursue the enemy also at night. Moreover, in a number of

cases an offensive operation began with a night pursuit. For example, in the Crimea operation (April 1944) a successful advance of the 4th Ukrainian Front from Dzhankoi to Simieropol forced the Nazi Command to begin withdrawing its forces from the Kerch Peninsula on the night of April 10. The Separate Maritime Army facing the enemy here passed over to pursuing the enemy the same night. This pursuit began with actions by reconnaissance detachments and the division's advanced battalions. The mobile groups of the corps followed them. Pursuing the enemy they approached the Akmonaisk positions by 1100 hrs after advancing 70 km during the night and the morning.

In the course of pursuit the Soviet forces often crossed water barriers, including large ones, on the march. As a rule, an assault crossing was planned for night-time because due to the lagging of the reinforcing artillery it was impossible to reliably neutralise the enemy defences on the opposite bank. Neither was there any question of waiting until the enemy brought up additional forces to the area of the planned landing. Therefore the crossing was carried out at night and as a rule without artillery and air preparation.

The armoured and mechanised forces — the basis of the advanced detachments and mobile groups — acted most effectively by night. Their rapid and deep blows largely secured success of the entire operation.

An important role was played by the artillery which was detailed in great numbers as accompanying guns for infantry units. The best results were achieved by direct fire. When an artillery preparation was carried out before the attack it was short — 20-25 min, but the artillery density was high. Thus during the Berlin operation (April-May 1945) the 8th Guards Army had 325 guns per kilometre of frontage.

In the course of the war the aviation was used on an ever increasing scale at night. It bombed aerodromes and railway junctions and frequently supported advancing forces. The aviation played a notable role in illumination and orientation of the land forces, delivering materiel to formations and units operating far ahead of the main forces.

Success of combat actions depended enormously on continuous and firm troops control. For this purpose command posts were brought

closer to the forces and a strict order of movement of the commander and his staff (as regards time and lines) was established. Positions of CPs and OPs, message and communication centres were designated by light signals.

On the whole night actions were prepared and carried out with great efficiency by the Soviet Army. This was frequently acknowledged by the enemy. For instance, former officer of the General Staff of Nazi Germany's ground forces Middel-dorf wrote: "Late in 1943 the Russians drew correct conclusions from their rich experience of night offensive operations. They started to launch offensives at night, usually setting the forces missions to a considerable depth. They used large tank forces to fulfil these missions and this often brought them success." To the above one can add that the Nazi forces also carried out night actions but failed to fulfil operational tasks.

The experience of the last war convincingly showed the possibility of using large masses of troops and various combat equipment on a large scale in conditions of limited visibility. Today these possibilities have broadened still, since combat equipment, armament, ammunition and night vision facilities are constantly being improved. But materiel in itself is not everything. Night actions can be effective only if the troops possess high moral qualities and are well trained and the commanders are capable of firm and skillful troop control.

COPYRIGHT: "Soviet Military Review," No 9, 1981

CSO: 1812/26

ARMED FORCES

FORMATION OF 'SOVIET GUARDS' RECALLED

Moscow SOVIET MILITARY REVIEW in English No 9, Sep 81 pp 37-38

[Article: "The Soviet Guards", by Lt Col V. Mikhaylov]

[Text]

We accompany a group of young servicemen into the airy garrison Officers' House. It contains the Museum of Combat Glory of one of the most celebrated formations of the Soviet Armed Forces — the Orders of Lenin and the Red Banner Guards Tank Kantemirovka Division. During the Great Patriotic War (1941-45) the Guardsmen routed the nazi invaders at Stalingrad, Voronezh, Kursk, on the Dnieper, in the Carpathians, and took part in liberating Poland and Czechoslovakia.

Noticeably moved, the young servicemen step over the threshold of the Museum. Numerous photos, documents and relics narrate the division's combat traditions. The tankmen examine with great interest the faces of the first Guardsmen of the formation. At one of the stands they stop to look at the photograph of a young officer with a courageous and strong-willed face. He is Lieutenant Gennady Pavlovich Vinogradov, Hero of the Soviet Union. The T-34 tank which has come to rest on a pedestal before the Officers' House is the vehicle Vinogradov fought on.

On February 18, 1943 the division fought stiff engagements near the city of Krasnoarmeisk in the Donets Basin. The fighting was stubborn. Wave after wave, the enemy tanks attacked the Guardsmen. Quite a few of them were shot up, but the hitlerites kept pressing hard. During the battle Colonel F. Likhachyov, a brigade commander, was severely wounded. The crew of the tank in which Private Vinogradov was a submachine gunner was assigned the mission: to evacuate the commander to the rear and to take out the brigade's colour. Guardsman Vinogradov was the first to run into the burning building housing the headquarters and he carried out the wounded commander. Then he returned, wound the unit colour round his body and jumped on the tank. The engine roared, the vehicle dashed forward. With fire and the tracks the tankmen fought their

way out and fulfilled the assigned mission. For rescuing the unit colour and the commander's life G. Vinogradov was honoured with the title of Hero of the Soviet Union and the other members of the crew were awarded combat Orders.

Thousands of Kantemirovites displayed courage and valour on the battlefields. Early in 1943 for feats of arms displayed in battle the division was awarded the Guards title.

The Red Guard — armed detachments of workers — born of the Great October, were the predecessors of the Soviet Guards. They were the main combat force of the October Revolution, the first armed bulwark of the young Soviet state. Red Guard detachments played an exceptional role in establishing Soviet power all over the country and in suppressing counter-revolutionary revolts. They became the foundation on which the Red Army grew and strengthened.

The Soviet Guards inherited from the Red Guard their glorious traditions — selfless mass heroism, constant readiness for self-sacrifice in defence of the Soviet Motherland.

September 18, 1941 became the birthday of the Soviet Guards. That day for mass heroism, exceptional courage displayed by the men and high military skill four divisions of the Western Front — the 100th, the 127th, the 153rd and the 161st commanded respectively by General I. Russiyanov, Colonels A. Akimenko, N. Gagen and P. Moskvitin were the first to be awarded the title of Guards divisions.

Guards units and formations were awarded Guards Banners. On May 21, 1942 a Guards Badge was instituted and Guards military ranks introduced.

The 100th Infantry Division was an example of how the morale of the future Guardsmen was strengthened and

steeled. This is one of the oldest formations of the Soviet Army formed as far back as the first years of Soviet power. During the Great Patriotic War the fighting men of the division began their glorious path at Minsk in June 1941. Here they destroyed hundreds of nazi tanks, routed several infantry regiments. In August 1941, during the Battle of Smolensk the division took part in delivering a powerful counterblow at the nazi forces at Yelnya.

The fighting men of the 100th Division fought at Yelnya staunchly and courageously. General Russiyanov recalled lately that in those battles all were heroes. Even the wounded would not leave the battlefield as long as they could hold arms.

Yes, everyone was a hero, the division commander included. General Russiyanov repeatedly visited combat formations of companies and battalions. During the most difficult minutes of battle, he would appear in a plain service shirt and helmet and with a pistol in hand among the attackers and the fighting men would hear his calm somewhat hoarse cry: "Forward!"

The Soviet Guards' motto has always been: "Only Victory in Battle." And victory it was. In the Battle of Moscow the 316th Infantry Division under General Panfilov, which in November 1941 became the 8th Guards Division, covered itself with everlasting glory. In the Volokolamsk sector its fighting men courageously fought the enemy trying to reach Moscow. Here at the Dubosekovo siding, 28 Guardsmen of the Panfilov Division performed their immortal feat of arms. The enemy hurled against them several dozen tanks, but the Guardsmen did not flinch, did not retreat a single step. The feat of arms of the Panfilovites became a symbol of Guards' valour.

The defenders of Stalingrad displayed unheard-of staunchness. At the most critical moment in the fighting General A. I. Rodimtsev's Division came to their assistance. The Guardsmen stood to the last man. The other men were worthy of them. For the heroic defence of Stalingrad the 62nd Army under General V. Chuikov, now Marshal of the Soviet Union, was awarded the title of Guards.

In subsequent fighting against the nazi invaders the number of Guards units and formations constantly increased.

In the offensive operations of 1943-45 they acted as a rule in the most decisive sectors. The Guards tank armies played an exceptionally important role.

By the end of the Great Patriotic War the Soviet Guards had grown into a mighty force. By May 9, 1945 11 all-arms and 6 tank armies, 117 infantry and 53 aviation divisions, 18 combat ships and a large number of units of various arms of the service were awarded the title of Guards.

The roar of battle died down long ago. One generation of the Soviet fighting men relieved the other but the tradi-

tions of the Guards continue to live. On the training fields, in flights and during sea cruises, everywhere and always the Guardsmen are in the front ranks, an example for the others in everything. Among them are the fighting men of the Guards Kantemirovka Tank Division. During the current academic year — the year of the 26th CPSU Congress — they undertook high socialist obligations and are successfully carrying them out. The Guardsmen warmly supported the call of one of the regiments of the Guards Motorised Infantry Division named after Hero of the Soviet Union Major-General I. Panfilov to all fighting men of the Land Forces to spread socialist emulation in 1981 for further increasing combat readiness, for irreproachable military order in every subunit and the regiment as a whole. The months of combat training that have elapsed showed that the Kantemirovites are confidently achieving their goal.

I happened to be at a tactical exercise of the Guards company under Senior Lieutenant Vladimir Kravtsov. This subunit has been rendered famous by Heroes of the Soviet Union Junior Lieutenant V. Yermolayev and Sergeant A. Timofeyev, who are enrolled for ever in the list of its personnel. The Guardsmen follow their example in everything. Their motto is: "Hit targets with the first shot, the first burst."

There were only minutes left before the attack. A red flare soared into the sky. Combat vehicles rushed forward to where the enemy was concealed. Driver-mechanic and Komsomol member Private S. Artemonov drove his tank confidently and at high speed. Other members of the crew follow suit. All act with precision and good team-work. Suddenly the first target: "a tank in a pit" appeared. Gun layer P. Kostin quickly took aim and pressed the button of the electric trigger. A shot rang out, the target was hit. The crews of other tanks also showed excellent results.

The exercises were over. The fighting vehicles came to a halt. The Guardsmen formed up by them. Senior Lieutenant Kravtsov made a critique of the exercises and commended many servicemen. Among the best he named the tank crew commanded by Senior Sergeant Yu. Shumsky.

The present generation of Soviet fighting men multiply with honour the traditions born on the battlefields of the war. The baton of the Guards glory is in reliable hands.

COPYRIGHT: "Soviet Military Review", No 9, 1981

CSO: 1812/26

ARMED FORCES

ROLE OF SENIOR NCOS DISCUSSED

Moscow SOVIET MILITARY REVIEW in English No 10, Oct 81 pp 36- 37

[Article by Col D. Petukhov: "Officers' Closest Assistants"]

[Text]

Special training of young drivers was going on in a truck company commanded by Senior Lieutenant A. Zanin. This time the instructors were sergeants and not officers. They were giving explanations to soldiers and acquainting them with the procedure on vehicles. Sergeant S. Kvanin was showing the rookies of his group how to start the engine by previous heating, how to connect the battery correctly, and answering questions. Then he asked Private P. Aitzhanov to repeat the operations. Sergeant V. Babarin was competently conducting a lesson with another group of young servicemen.

Lessons conducted by sergeants are an everyday occurrence in the Soviet Army. Section commanders of any subunit and platoon deputy commanders regularly train their subordinates and pass on to them the necessary knowledge and skills.

For many years already sergeants (in the army) and starshinas (in the navy) have been the most numerous detachment of command cadres. In 1972 it was reinforced with praporshchiks (in the army) and mitchmans (in the navy). The introduction of the ranks of praporshchiks and mitchmans was conditioned, in the first place, by the qualitative changes that have occurred in the Soviet Armed Forces in connection with the revolution in military matters. They form a new detachment of professional commanders, close to the officers' corps.

Sergeants and starshinas, praporshchiks and mitchmans are the immediate and direct leaders of soldiers and sailors. Their role in training and

educating the men is exceptionally great. They are in constant touch with soldiers and sailors not only during training, but also during out-of-service hours and know well the abilities and individual traits of character of every one of them. This helps them to organise their work with subordinates more purposefully and concretely and exert an effective influence on them. Those who have undergone solid special training and make skilful use of disciplinary practice achieve better results. The combat training of each soldier and sailor in sections, detachments, crews and action stations, and consequently the combat readiness of units and ships depend, to a considerable extent, precisely on this.

Sergeants and starshinas have won great authority and esteem by their selfless combat labour during the entire history of the Soviet Armed Forces. During the Great Patriotic War (1941-45), together with their subordinates they bore the hardships and deprivations of life at the front with staunchness, rushed to the attack at the head of sections and detachments and displayed examples of staunchness, courage, heroism and inflexible will to defeat the fascist invaders. For instance, the name of Yakov Pavlov, who in the Battle of Stalingrad, carrying out his commander's order, occupied by force a four-storey building with a small group of men on the night of September 26, 1942, became legendary. Despite fire from enemy machine guns, mortars and artillery, air bombings and fierce attacks of nazi infantry and tanks, the Soviet soldiers, under the command of the sergeant, held this building, an important strong point in the defence system of one

of the infantry divisions for two months until the end of the great battle on the Volga. In the history of the Stalingrad Battle the house became known as the "Pavlov's House." For heroism and selflessness displayed in fulfilling combat duty Guards Sergeant Pavlov was awarded the title of Hero of the Soviet Union and the soldiers of his group were awarded Orders and medals.

The names of Sergeants Mikhail Yegorov and Meliton Kantaria are widely known in the Soviet Union. It was they who hoisted the Victory Banner over the defeated Berlin on April 30, 1945. The Soviet Motherland valued highly the combat valour of the sergeants and starshinas in the past war. Tens of thousands of them were awarded Orders and medals and almost 2,800 received the title of Hero of the Soviet Union.

Today sergeants and starshinas, praporshchiks and mitchmans are persistently training and educating soldiers and sailors. Under their leadership young servicemen receive solid special knowledge and acquire the traits of character necessary for victory in battle. At the same time the commanders of this category take into account that in a number of cases in battle they will have to take independent decisions and, together with their subordinates, be out of contact with the main forces. Therefore, they train to evaluate situations correctly and to master habits of initiative and independence. They are obliged to do this, by the way, by the regulations of the Soviet Armed Forces. For instance, the Interior Service Regulations say that a section commander must know the weaponry, the rules for using the section's combat and other equipment and must be able to command the section skilfully when carrying out combat assignments. The deputy platoon commander has the same obligations.

The duties of junior commanders are complicated and varied. They are responsible for the training, education, military discipline and morale of the personnel of the sections, detachments, crews and action stations they head, and also for the military bearing and neat appearance of their subordinates. They are responsible for maintaining in good condition and order the weapons, combat and other equipment and properly they are entrusted with, for the observance of the interior order regulations and routine by soldiers and sailors. The main principle they apply in

training and educating their subordinates is: "Do, as I do!"

It is above all commanders who show respect for their subordinates that are capable of successfully coping with their difficult duties. Deep ideological conviction, exactingness and consideration, personal example in service and knowledge of equipment, discipline, initiative and resourcefulness are the foundation of junior commanders' authority.

Practice shows that the effectiveness of the immediate leaders' influence on the personnel depends to a great extent on ability to build correct mutual relations with the subordinates. And this ability is determined by how well the sergeants and starshinas, praporshchiks and mitchmans know their men. It is the duty of the deputy platoon commander and section leaders to know well every subordinate, his individual traits, type of occupation before call-up, family status, achievements and shortcomings in combat training. Junior commanders study daily and painstakingly the mood, interests, thoughts and feelings of soldiers and sailors, and their characters. This helps them to more influence the men purposefully and to establish business-like contacts with them.

Officers teach sergeants and starshinas to skilfully apply the rights they are given. Each one of them is, as a rule, of the same age as the men under him, and if older, only by a small margin. It is always important to be exacting and principled and not to offend the dignity of a soldier. When conveying the experience of educational work to junior commanders the officers emphasise that genuine exactingness towards subordinates in the Soviet Armed Forces is based on the principles of socialist humanism and has nothing in common with rudeness and offensiveness.

Sergeants and starshinas, praporshchiks and mitchmans make a considerable contribution to training ideologically convinced, skilful, heroic and staunch defenders of the Socialist Homeland.

COPYRIGHT: "Soviet Military Review", No 10, 1981

CSO: 1812/27

ARMED FORCES

ROLE OF SOCIALIST EMULATIONS DISCUSSED

Moscow SOVIET MILITARY REVIEW in English No 10, Oct 81 pp 38-39

[Article by Col V. Petrov: "Strength through Emulation" under the rubric "The 26th CPSU Congress"]

[Text] In his Report to the 26th CPSU Congress L. I. Brezhnev said: "Socialism gives rise to a new attitude to work. Socialist emulation has been and remains one of the most vivid manifestations of this attitude. There is not a single factory, collective farm, or construction project that does not feel its life-giving breath. The magnitude of this patriotic movement is impressive: today it involves more than a hundred million people. It gives shape to exemplary understanding of social duty, heroism and dedication in work."

These words apply in full to the Soviet Armed Forces. Socialist emulation is an inseparable part of the entire training process and education of servicemen. It helps achieve high standards in combat training and political education.

For instance, the motorised infantry regiment under Lieutenant-Colonel L. Kovalyov has been an excellent unit for a number of years. Its outstanding achievements in combat training and political education are largely due to the persistent efforts of the commanders, political workers and Party organisations in raising the effectiveness of the socialist emulation movement and consistent implementation of the principles governing its organisation.

The purpose of emulation in the regiment is determined above all by the need to improve servicemen's level of combat readiness and proficiency. Emulation helps them achieve excellent results in every exercise, lesson and drill.

At the same time socialist emulation is an effective means of spiritual enrichment of the servicemen.

In organising emulation the commanding officer, staff and Party committee set not only the results in figures, the quantity of the materials to be saved and the number of rationalisation proposals to be made, etc. but also determine the moral impact of emulation on the men. In emulation real success is achieved when the combat enthusiasm of the servicemen is pervaded with conscious initiative, when it is intended to broaden the political and cultural outlook, to strengthen discipline and organisation, and to develop high moral and combat qualities in the men.

How is socialist emulation organised in the regiment? When servicemen undertake individual pledges, the command, staff, Party and Young Communist League organisations do a great lot of work. They see to it that initiative in this is displayed from "below," i.e. from the men. This approach imposes the responsibility for unity of word and deed on the men themselves. The pledges are concrete, their content corresponds to the level of training of the servicemen, to the aims and tasks set to the subunits.

The formulation and acceptance of pledges is only the beginning. In the subunit the emulation starts when the men proceed with the practical fulfilment of their pledges. The commanding officer, his deputy for political affairs and the Party organisation of the regiment create favourable conditions for efficient performance of duty.

Success largely depends on a creative approach to and skilful use of the most effective forms of socialist emulation by the commanding

officer. Emulation in fulfilment of combat training missions and training standards is one of these forms.

Efforts to cut down the time to achieve training standards and to improve the quality of performance constitute the essence of emulation in this field. At the same time a big role is played by emulation in execution of various missions.

The officers have to set an example in order to get the men to fulfil their pledges with high marks. As a rule, company commanders and political workers are the first to carry out the drills and exercises. This encourages the privates and sergeants, increases their sense of responsibility and kindles in them the desire to be as good as their commanders.

The Party organisation of the regiment gives all encouragement to the patriotic initiatives of the younger men, does its best to increase

the number of excellent soldiers and rated specialists. Thus, the Party committee gave its approval and support to the initiative exhibited by the Young Communist League committee of the unit in conducting a contest for the best company or battery YCL organisation. The motto of the contest was: "For excellent knowledge of combat equipment and weapons, for their excellent maintenance and operation." The contest was conducted in three stages and helped the YCL organisations improve their performance. Eventually this produced good results in combat training. The number of rated specialists increased, technical study groups became more active and members of the YCL made

a bigger contribution to providing and improving training facilities.

In socialist emulation a lot depends on correct summing up of the results. To illustrate the point we shall quote the example of two companies. In one company the results are summed up according to a standard pattern, giving the achievements in percentage, the names of the men that distinguished themselves and those that are lagging behind. And nothing more. In the other company, after the results have been summed up, the commander presents pennants and diplomas to the men who have distinguished themselves. The wall newspaper carries articles about them, the local radio broadcasts programmes devoted to them and the commander informs their parents of their achievements in line of service. This inspires the participants in emulation to make further efforts to secure good results.

The deputy commander for political affairs, other officers, the company starshina, the Party and YCL activists take part in the summing up. They analyse the experience accumulated and reveal the untapped reserves. As a rule, the commanding officer is the last to speak. He gives thorough general analysis

of the state of affairs in the subunit. He illustrates his words with diagrams prepared in advance and with a bulletin "Screen of Socialist Emulation." And the accomplishments are appraised not only on the basis of concrete results of combat training, but also on the basis of ethical criteria, such as the attitude of the men to lessons and drills, whether the men in the section or platoon help one another to achieve better performance, how the men broaden their outlook, how they perform guard duty and in daily detail, whether they are active in social work. To put it in a nutshell, the honour of winner is conferred on the man who puts his heart into his service duty, who is conscientious, who makes steady progress, constantly improves his performance and all-round proficiency.

In the subunits of this unit it has become a tradition to invite "opponents" — i.e. representatives of

another motorised infantry company — to the summing up for the week, month or training period.

Every month the flag is hoisted on the regimental parade ground in honour of the company that has scored top marks in the emulation. A moving moment! The regiment forms up at the flagstaff, the order of the day is read out and the flag is hoisted to the music of the brass band.

The regimental command have produced regulations for determining the best company (battery), platoon, crew, section and specialist. The men who have secured the best results in a given speciality are naturally encouraged. Their photographs are hung out on stands in Lenin Rooms, in the unit club, the infantry fighting vehicles park and shooting ground. The photos are accompanied by a brief account of the men's experience. Sometimes the unit command write letters of commendation to their homes, military commissariats, educational establishments, industrial enterprises, state farms or collective farms where the boys studied or worked before call-up.

There can be no stereotype approach to encouragement of advanced servicemen who show splendid performance in emulation or to the organisation of the movement. A collective approach must be taken to this and to a constant search conducted for new and better forms. In one of the battalions the men who have distinguished themselves are presented with ribbons of winners in socialist emulation in their respective specialities, such as "Best driver mechanic of an infantry fighting vehicle," "Best operator-gunner of an infantry fighting vehicle," "Best rocket launcher operator."

The battalion in question has set up a Sergeants' Council. Its main task is to generalise and spread the experience of the best non-commissioned officers in training and educating the privates.

Honouring the winners is widely practised in the unit. For instance, if a company has secured first place in emulation, its personnel occupy seats of honour in the soldiers' mess. Meetings in the regimental club are widely practised too. The

men are eager to attend them because only those who have secured the best results in emulation, veterans of the unit and advanced workers of the factory which exercises patronage over the unit are invited. At these meetings the winners exchange experience and receive awards. Soldiers' song groups perform in their honour. The winning company is presented with the Challenge Prize of Hero of the Soviet Union Ponomarev, whose name has been entered for ever into the list of one of the regiment's subunits. Honours to men who have achieved excellent results in combat training is a major social event. It kindles a sense of pride in the winners for the results achieved and in the others a desire to follow their example.

Socialist emulation in the army and the navy creates powerful incentives for the men. The spirit of contest, ability to compare results and fair appraisal of achievements develop in the men a sense of collectivity and mutual assistance and help instil socialist ethical standards.

AIR FORCES

ATTACK PHASE OF AERIAL COMBAT

Moscow SOVIET MILITARY REVIEW in English No 7, Jul 81 pp 20-21

[Article by Lt Col G. Mikhailov, military pilot 1st Class: "Air Combat. 3. Attack"]

[Text] Attack is the decisive stage of air combat, ending in direct engagement of the enemy by fire. Search and approach, which were discussed in previous articles under the same title in Issues Nos 5 and 6 of our magazine, serve, so to speak, as preparatory stages for the main one — target destruction. The present article deals with the requirements for this final stage, and with the changes that have taken place in it with time, depending on the methods and types of the weapons used.

3. ATTACK

The main requirements for an attack always have been and still are surprise and swiftness, because it is precisely these factors which allow the fighter to attain the desired result even at the first approach and make the attack irresistible. This proposition is borne out by the number of enemy planes downed by Soviet aircraft during World War II: the first attack accounted for 75 per cent of them, the second one for 15 and the third for 10.

The analysis of aircraft losses during air fighting in Vietnam and the Middle East made by foreign experts shows that this correlation has practically not changed with time. The percentage of planes shot down in the first attack has even increased, though for both sides the problem of achieving surprise has become more complicated.

A modern air battle is characterised by fluidity. As up-to-date aircraft possess high speeds, everything naturally depends on the first surprise attack. If the plane misses, it will be very difficult, at times even impossible, to make a second approach. This requires of the fighter pilot high skills and excellent knowledge of enemy tactics. Soviet pilots still believe in the wartime precept: "To destroy the enemy in the first attack, constantly study him, his tactics, weapons, equipment, master perfectly the ways and methods of combat actions, be able to use to the full extent the capabilities of your own fighter planes."

It follows that the foundation of success in air fighting is laid on the ground. Nowadays every flight is preceded by

a rehearsal of various variants of a group battle, specification of missions, procedure for cooperation, definition of commitment lines and attack directions. If the fighters want to impose on the enemy their tactics, seize the initiative and achieve success, they must model the forthcoming air battle on the ground.

The tactics of surprise attacks were skilfully used by North-Vietnamese pilots who carefully prepared for each air battle. The American planes attacking Hanoi and Haifong usually operated out of range of the ground radar stations, and the information supplied by airborne command points (ACP) was incomplete. Aircraft radar sets of that time possessed low efficiency in detecting low-flying targets. Profiting by this factor, the Vietnamese pilots would manage to achieve surprise and not infrequently defeated a numerically superior enemy.

To achieve security from observation and surprise when repelling enemy air raids the Vietnamese pilots did not use massed counterattacks. They committed their planes to action periodically, in small groups, strictly according to circumstances. Their attacks yielded better results when they were carried out at the moment of the enemy approach to the break-up line, i.e. when the planes were still flying in close formation and their manoeuvrability was therefore limited. Besides, some of their attention was diverted to finding the ground objectives they had to attack.

Approach to the fire line during the attack was marked by maximum acceleration with due regard for the limits necessary for accurate launching of guided missiles. Runs-in

were mainly directed at strike bomb-carrying American planes. The attack was often combined with "penetration" through the fighter screen.

The North-Vietnamese pilots were fighting mainly over their own land, and this was not the least of the factors ensuring success of the surprise attack tactics. They displayed a creative approach to analysing the situation, widely using control and warning means, avoiding stereotyped actions in attacking and using the weapons available. The surprise effect was achieved mainly due to use of new and original methods.

Surprise in group combat can be achieved by other methods, e.g. by regrouping the formation, distributing missions among groups with different tactical tasks, deceiving the enemy as to the concept of battle, etc.

In the past the combat formation of fighters consisted of a strike group and a cover group. The first one engaged in combat immediately. The second group was used only to pursue or cut off the enemy, and to support the first group if such a possibility arose.

According to foreign reports, in the Middle East group fighting the combat formations of planes included special demonstration groups having strictly defined missions. They were the first to engage in combat with the mission to draw off part of the enemy's forces and attention, thus creating favourable conditions for the main force to launch a surprise missile attack. The combat plan envisaged that, having accomplished its main mission, this group would reinforce the efforts of the attacking fighters. The numerical correlation of forces in that case was as follows. If the group combat involved three flights of fighters (the maximum composition in the experience of local wars), the demonstration group normally comprised four planes.

The attacking tactics have changed with the increase in the engine thrust-to-weight ratio and in the range of air-to-air missiles. Before engaging the enemy main fighter group the strike group did not try to climb to a higher flight level but went down, hiding under the lobe of the enemy radar station. Not infrequently it was assigned the mission to lay an ambush. Such zones were arranged within the gaps of enemy radar coverage. To achieve surprise the attack was mainly launched not from above but from below, followed by climbing.

Foreign experts discerned several tactical methods commonly used by fighters to simulate false intentions. One of them was to break up the enemy formation by penetrating into it on a head-on course. Usually pilots who had broken away from the formation and therefore were without support did not display activity but tried to find friendly planes as soon as possible, neglecting defence. Such single planes fell under the attack of the strike group.

The next method — drawing the enemy into the area of the strike group — was called "provoking to pursuit." Watching the manoeuvres of the demonstration group the enemy counted on attacking it with superior forces. But at a certain stage of combat the strike group, previously "in ambush," joined the fight. Usually it attacked from below.

The tactics of modern combat require of the attack high efficiency and unconditional achievement of the final objective. That is why surprise is considered not as an end in itself but as an effective means, if used properly, for winning the battle. It considerably influences the results of the attack. But the outcome of an air fight depends largely on the pilot's firing skill, his ability to complete the manoeuvre with precision, and to destroy the target with the first missile or projectile.

Selection of one or another method of attack or of engaging the enemy with fire depends to a great measure on the capabilities of the fighter plane's weapons. The effectiveness of a missile attack is determined largely by the missile capabilities and the characteristics of sighting devices. At the initial stage of introduction of missile weapons their use was limited by stringent requirements as regards flight conditions of the carrier plane to ensure both the required accuracy and the necessary security. Therefore fighters equipped with air-to-air missiles were used at that stage mainly as interceptors. But in local wars the tactics of their employment changed: the methods and ways of attacking the enemy were determined to a great extent by attempts to adapt the interceptors and their weapons for group manoeuvre fighting. Limitations of missile ranges and overloads necessitated careful preparation of the attack and revision of the correlation between auxiliary and striking forces in combat.

Formerly the attack consisted of roughly aiming the weapon at the target followed by precise sighting and fire for effect. Attacks in pairs and flights were intended to concentrate group efforts against one target. The increased power and efficiency of modern weapons made it possible to concentrate the main attention on accuracy rather than concentration of fire. Therefore both the strike group and the group that had to cover and support it were approximately equal in strength.

How do the experts now conceive future air combat with participation of next-generation fighters? It was mentioned above that the tactics of such combat are still at the modelling stage, but some conclusions on the attack stage based on an estimate of combat capabilities of aircraft and weapons and on comparison of characteristics of fighter planes of the past and present generations can be already drawn.

Modelling of fighter air combat aimed at achieving air superiority shows that the increased capabilities of weapons can change the tactical content of the attack stage. Foreign

experts consider that the possibility has appeared to discard demonstration groups or at least change their missions. Not only straight-in but also turn attacks will become possible. The number of aircraft directly engaging the enemy with fire should increase due to redirection of groups performing auxiliary functions.

It will become possible to launch the attack from a greater distance considerably exceeding the range of visual target detection. The probability of success will depend on the enemy's vigilance.

As regards the improvement in manoeuvre qualities of modern aircraft and the advent of new types of weapons, air combat is being modelled which incorporates transition from medium to small distances. Consequently, modern combat may include a fourth stage: manoeuvre to deliver a repeated attack in close combat.

COPYRIGHT: "Soviet Military Review", No 7, 1981

CSO: 1812/028

AIR FORCES

PILOT COMBAT TRAINING DISCUSSED

Moscow SOVIET MILITARY REVIEW in English No 8, Aug 81 pp 14-15, 18

[Article by Lt Gen Air Force P. Bazanov, Hero of the Soviet Union, Merited Military Pilot of the USSR: "Pilots' Combat Training" under the rubric "August 16—USSR Aviation Day"]

[Text]

IN RECENT years the Soviet Air Force, like all the other fighting services of the Soviet Armed Forces, has made another step forward on the road of improving its combat skills and mastering intricate modern equipment. The provision of the Air Force with missile-carrier and multipurpose variable-geometry aircraft, and vertical take-off and landing flying vehicles has allowed it to acquire such new qualities as the ability to overcome effectively the enemy's air defence systems, deal blows at his deep rear, and gain and retain air superiority.

Owing to the concern shown by the CPSU Central Committee and the USSR Council of Ministers for the Air Force, the latter is staffed with highly qualified flying personnel utterly devoted to the Party and the people, having higher specialised military education, and capable of quickly mastering the latest types of airplanes and helicopters and operating and using them in modern battle.

Carrying out the Party's instructions on improving the quality and efficiency of combat training, airmen seek to make maximum use of every hour of training and flights in order to enhance professional skill and bring crews' proficiency in correspondence with the equipment's potentialities.

Modern battle is characterised by the use of large quantities of the most up-to-date weapons and equipment, fluidity, high manoeuvrability and diversity of forms and methods of fighting.

Victory in battle can be scored only in close cooperation between crews of radar stations, command posts and guidance posts, which, undoubtedly, complicates battle organisation and

control and demands of the flying personnel a high combat training level, i. e. the ability to pilot an aircraft skilfully in any conditions, to act within a group, to hit the target at the first approach, etc. These qualities are decisive for an air fighter.

During the Great Patriotic War (1941-45) success attended those Soviet pilots who used the whole wealth of knowledge and skills to fight the enemy and who showed a non-standard, creative approach to each sortie.

The types of combat operations and tactical methods used in modern battle rest on the tried and tested scientifically based conclusions obtained both from the experience of the Great Patriotic War and subsequent local wars and those confirmed by the results of numerous tactical air exercises.

But to carry into effect even the most perfect tactical concept, a pilot must have, among other things, high moral and combat qualities, e. g. the ability to make the utmost use of a modern aircraft with its intricate systems and devices.

In all Air Force units combat training both in flights and during ground training is being improved along the following main lines: studying the nature and peculiarities of modern air battle; revealing new tactical methods and techniques; inculcating in each pilot courage, initiative and creative approach to fulfilling a combat mission; profoundly and purposefully studying the weapons, equipment and tactics of a likely enemy, etc.

Tactics is the main element of a pilot's combat training. Being the science of battle it is inseparably linked with practice. Its theoretical propositions based on scientific calculations are tested in flights and at tactical exercises. However, it is impossible to foresee every contingency in battle. Each method or technique of combat actions corresponding to a specific air situation, much attention in the pilot's tactical training is given to flights aimed at working up elements of combat use and tactical air exercises. In organising and carrying out the latter, senior commanders create instructive situations stimulating pilots' and group leaders' tactical thinking and developing firm skills in using weapons systems and in battle control. Proceeding from the requirements of modern battle, it is practicable to model each combat training mission and to foresee the optimal variant of carrying it out. At routine training lessons or rehearsals of forthcoming flights the commander gets a clear idea of such qualities of his subordinates as initiative, quick wit, resourcefulness and military cunning. During the critique he can point out pilots' mistakes and show how to eliminate them.

High combat proficiency presupposes the flying personnel's all round knowledge of a likely enemy. During the Great Patriotic War Soviet pilots confronted the enemy with tactics based on profound knowledge of the weak and strong points of Nazi tactics. The battle formula "Altitude, Speed, Manoeuvre, Fire" originated on the basis of constant and exhaustive analysis of attacks carried out by Soviet pilots. Today too pilots continue to study a likely air enemy, taking into account the changes in the quality of his aircraft equipment, his tactics and his flying personnel's combat training level.

During combat use flights, for instance, the "enemy" acts energetically and swiftly against a complicated tactical background. Whatever mission may be assigned to individual pilots or crews, they should not overlook the possibility of counteraction by the "enemy" anti-aircraft weapons when approaching the target and dealing a missile or bomb strike.

Success in teaching tactics to pilots largely depends on whether or not the commander himself is capable of keen tactical thinking and can assess any situation operatively and correctly. An experienced commander sees to it that each flight is used by his subordinates to acquire the necessary skills. When mastering a new aircraft, a pilot does not only learn to fly, he also begins to assi-

milate the art of fighting an air battle. Performing a certain method or technique to carry out the mission, he develops his tactical thinking and improves his combat training level. It would be most appropriate here to emphasise the special role of the flight commander in pilots' education and instruction.

As he is the young pilots' first teacher and tutor, the flight commander has a direct influence on the speed and success with which they improve their combat proficiency, master intricate aircraft equipment and methods of using it in combat. Both on the ground and in the air he constantly teaches his subordinates everything which is indispensable for conducting modern combat operations. And this is a great responsibility, for to have the moral right to be his men's teacher and leader the commander must be well conversant with method, be able to fly excellently and fire at targets accurately; in other words, he must have sufficient experience and prestige. To inculcate in pilots such combat qualities as purposefulness, persistence and resolution in carrying out the decision taken, the commander must have all these qualities himself; he must never rest content with what he has achieved, but must constantly improve his proficiency and be critical in assessing it.

The specifics of missions carried out by different subunits make special demands on the men. For instance, the highest criterion of an interceptor pilot's proficiency is his ability to hit the target accurately in any conditions. For this, however, he must be able to pilot the aircraft perfectly, have a profound knowledge of weapons and equipment and be able to use flexibly and rationally the whole set of tactical methods.

He is highly mistaken who believes that the pilot's combat proficiency is all spontaneousness and inspiration. The seeming ease with which he performs the most complicated piloting or attack elements is the result of persistent, well thought-out and purposeful training. That is why Soviet pilots strive to make each flight a landmark on the road of improving their combat skills.

No matter how experienced a pilot is, he must prepare for each flight as if it were a very responsible combat mission.

The continuous improvement of attack weapons, and also of control and security facilities have made increased demands on the organisation of combat training process and on the methods of training and educating flying personnel.

Average combat training level today is inadequate for the pilot to use to the full the potentialities of the aircraft equipment or to carry out combat missions successfully in any situation. Therefore, constant growth of the pilot's combat proficiency should be made the main goal in the activity of commanders and political workers.

Snipers in the Soviet Air Force are rightfully considered the leaders in mastering modern equipment and using it in combat. Besides hitting the target accurately, a sniper regards it his duty to be a considerate tutor for young pilots whom he instructs and educates, and strives to bring their training standard to the level of his own proficiency.

Numerous exercises and inspections have shown that airmen are capable of quick and resolute actions in complicated situations and of handling first-class combat equipment skillfully, for which no small measure of recognition is due to advanced pilots. For example, pilots in Lieutenant-Colonel Boiko's squadron demonstrated successful actions during a check of tactical and fire training level. Their skill, teamwork and initiative helped to carry into effect the concept of the battle, and their most accurate fire confirmed their high readiness to fulfil any mission.

These pilots are distinguished firstly for their high professional level based on sound knowledge of theory, which allows them to forecast, with a high degree of precision, the air situation, the actions of the "enemy" and the likely results of fulfilling the flight mission, and gives them confidence in the successful performance of new elements of combat use and fulfilment of complicated tactical missions.

Following Lenin's behests and the decisions of the 26th CPSU Congress, commanders and political bodies, Party and YCL organisations show constant concern for improving airmen's combat proficiency. A great role is played by purposeful Party-political work, whose organisational level and specifics in every subunit considerably influence airmen's ideological steeling and the development of their moral, political and combat qualities.

High results in combat training are promoted by well organised socialist emulation, in the course of which airmen strive to attain the best indices in air and tactical training and to fulfil combat training plans and tasks.

Airmen's combat proficiency, ideological convictions and high political consciousness are a powerful impetus in their selfless military labour, their quick mastering of modern weapons and irreproachable discharge of their duty to defend the Socialist Motherland according to the Constitution.

COPYRIGHT: "Soviet Military Review", No 8, 1981

CSO: 1812/029

AIR FORCES

HISTORY OF HELICOPTER REGIMENT DISCUSSED

Moscow SOVIET MILITARY REVIEW in English No 8, Aug 81 pp 24-25

[Article by Col V. Lebedev: "Multiplying Combat Traditions" under the rubric "Combat Training"]

[Text]

The history of the helicopter regiment named after V. I. Lenin dates back to the years of foreign military intervention and the Civil War. At the time it was only an air detachment. For distinguished combat actions the detachment was awarded, in September 1921, an honorific Revolutionary Red Banner of the All-Russia Central Executive Committee.

The combat exploits of this famous unit in defending the sacred borders of the USSR were marked with the Order of the Red Banner. In the post-war years the regiment was honoured with a pennant of the USSR Minister of Defence "For Courage and Military Valour," a diploma of the Commander-in-Chief of the Soviet Air Force for the first place in competitions and an honorific diploma of the CPSU Central Committee, Presidium of the USSR Supreme Soviet and Council of Ministers of the USSR.

The regiment stood at attention in profound silence. With great solemnity the helicopter regiment was awarded the challenge Red Banner of the Military Council of the Order of the Red Banner Far Eastern Military District, for success in combat training and for selfless military labour. For more than ten years this regiment, bearing the name of the great Lenin, has been an advanced unit.

It is not at all easy to retain this position for years due to constant changes in the personnel. Veterans retire and first-class specialists, e.g. pilots, engineers and technicians are promoted and transferred to other units. However, the regiment's good traditions remain an efficient means of developing high moral and combat qualities in the airmen. One such tradition is to perform all flight missions with excellent marks.

The regiment has quite a few men who are masters of their trades: high-class air fighters, competent engineers and technicians and experienced educators.

The airmen have studied the equipment thoroughly and learned to use its potentialities skilfully, largely as a result of the well-organised teaching process. Not infrequently the unit's veterans and combat experts tell young

pilots about the peculiarities of the use of the helicopter in combat, its weapons and equipment, the launching of non-guided missiles and methods of bombing using different manoeuvres. Talks by snipers, who have mastered the whole set of ways of using the helicopter over the battlefield contribute to improve the flying personnel's firing and tactical skills.

A tangible contribution to enhancing the regiment's combat readiness is made by specialists of the engineer service, who spare no pains to ensure trouble-free operation of all units and systems of the rotorcraft. Realising their high responsibility for the quality of operation and flight safety, engineers and technicians do their utmost to carry out their missions successfully. They cope with this task owing to the high professional level of the engineer service personnel, purposeful and effective maintenance of equipment in operation and constant improvement of specialists' skills. The majority of the regiment's technicians are first or second class rated specialists, some of them even masters.

Whatever task airmen may have to carry out, they always work with enthusiasm and a sense of high personal respon-

sibility. All aspects of their multi-faceted and strenuous activity are permeated with a competitive spirit.

Another remarkable tradition of the regiment's airmen is skillful use of the educational role of socialist emulation to achieve new successes in military labour.

First and foremost, the personnel's efforts are concentrated on thoroughly studying the combat equipment.

Efficient organisation of technical classes and constant improvement of the personnel's knowledge are considerably promoted by the good training base, which has lately undergone considerable changes. In a new building there are classrooms for studying the design and operation of engines, aircraft armament and radioelectronic equipment, and also places for complex studies of helicopters' combat use.

The laboratories of the regiment's maintenance service have also put on a new look and are used not only for research but equally for practical purposes. For instance, specialists in aircraft armament have manufactured an original simulator to work up operator pilots' actions in launching guided missiles. The simulator makes it possible not only to teach practical launching, but also to record accuracy of missile flight control on a photographic film and to monitor serviceability of the helicopter's weapons and equipment.

It would not be right, however, to say that everything went smoothly in this important undertaking. There were omissions in specialists' technical training and miscalculations in the organisation of classes.

Having analysed the state of technical training, the commander, the chief of the political department and the maintenance service chiefs consulted the Party activists and unanimously concluded that the shortcomings detected must be overcome in the shortest possible time. It was then decided to discuss the question at a Party meeting. Communists spoke critically and sincerely about the state of technical training, not only disclosing omissions and miscalculations, but showing the ways of eliminating them. The report and subsequent debates noted that individual officers had weakened their control over specialists' work, citing as proof an incident which had taken place in the air with Captain Perfilyev's crew.

In the beginning everything went well aboard the helicopter. But suddenly the tail rotor started malfunctioning. The machine went spinning. A critical situation set in. The crew, however, were not taken unawares; they acted competently and succeeded in landing the helicopter. It is noteworthy that the flight took place at night. The commander commended the airmen for their high training level.

The talk at the above mentioned Party meeting was a principled one. Speakers criticised chiefs of schedule maintenance groups who had not paid sufficient attention to

work with junior personnel, and Communists on the staff, who had relaxed their supervision of technical training in subunits and schedule maintenance groups.

At present technical training problems are given considerably more attention. The regiment's methods council has worked out a special plan, which has been approved by the commander. The staff has intensified its control over training of instructors. The commander charged the methods council with generalising the experience of advanced officers enjoying the reputation of competent methodists and skilled educators.

The experience of winners in socialist emulation is widely publicised in wall newspapers, through the unit radio station and at the critiques following flights and ground drills. The staff has set up a stand entitled the "Screen of Socialist Emulation." Photo and radio newspapers are also regularly produced. The Air Force flag is raised in honour of the winners, and the best subunit is awarded a challenge Red Banner. There are also other forms of commendation in the regiment, e.g. presenting the best servicemen with pennants "To the Best Military Sniper Pilot," "To the Best Gunner" or "To the Best Aircraft Technician." Besides, the names of winners in socialist emulation are engraved on a special prize which is kept in the Museum of Combat Glory.

The flying personnel work to ensure that 80 per cent of the air fighters are first or second class rated specialists. The obligations undertaken by maintenance service specialists are also worthy of notice. Sixty-five per cent of the machines in the regiment bear the mark "Excellent Helicopter of the Unit," seventy-five per cent of the engineers, technicians and mechanics have excellent results in combat training, and seventy per cent of the maintenance personnel are first or second class rated specialists.

AIR FORCES

IMPORTANCE OF PILOT'S SELFCONFIDENCE DISCUSSED

Moscow SOVIET MILITARY REVIEW in English No 8, Aug 81 pp 34-35

[Article by Col Ye. Besshchetnov: "If the Pilot is Confident" under the rubric "Psychological Training"]

[Text]

P ILOT CAPTAIN Leonid Galchenko was patrolling in the air, together with his wingman Lieutenant Viktor Mironov, on the approaches to the town of Murmansk. Suddenly he saw between the gaps in the clouds several nazi fighter planes. He quickly counted them: seven altogether. Two against seven! The forces were clearly unequal. What to do? Having assessed the situation, Galchenko decided to attack the hitherites. By rocking the wings he signalled to his wingman to follow him and, going into a climb, turned upsun to deprive the enemy of the possibility to spot the Soviet planes. Then the pair performed a manoeuvre and rushed in to the attack.

Galchenko was confident of success and his confidence was based on accurate calculations. He took into account the high flight performance and combat qualities of their planes, the advantage of altitude and the surprise factor. So they had better chances, but to profit by them required courage, resoluteness and high combat activity. But both he and his wingman had plenty of these qualities.

At the calculated moment both of them opened devastating fire, which was quite a surprise for the enemy. The enemy leading fighter caught fire right away and began to smoke, another made a sharp wing stall, lost control and hurtled like a stone to the ground. The sudden attack threw the enemy group into confusion. Meanwhile Galchenko and Mironov had had time to make a turn and launch another attack. One more enemy plane was downed. The rest hastily left the scene of combat and disappeared in the clouds.

Hero of the Soviet Union Colonel (Ret.) Leonid Galchenko has to his credit 36 enemy planes and 410 combat sorties. In each dogfight the courageous air fighter displayed high military qualities. And not infrequently the

main factor that helped him to emerge victorious was confidence based on courage and valour, exact calculation of his own actions and full use of the excellent combat capabilities of the aircraft he flew.

The pilot's confidence... It can hardly be overestimated. It plays an important and sometimes a decisive role in victory. If the airman has confidence in himself, all his spiritual and physical forces, knowledge and skill are directed towards ensuring maximum success of his mission. He is capable of bold, resolute, even audacious actions and is ready to overcome any difficulties. Confidence makes him more purposeful and persistent, gives him more emotional and volitional stability.

Like many other moral and physical qualities, the pilot's confidence is based primarily on his firm ideological steeling, profound knowledge of flight theory and aviation material, and his ability to use it skillfully. Competent flight control, faultless and precise actions of the crews of the control tower, guidance posts and landing systems also contribute to the pilot's confidence. Much depends, of course, on the pilot's own qualities, his temperament, moral and psychological condition.

Air commanders, being organisers of the training and educational process, play an important part in cultivating airmen's confidence in themselves. Their weighty, authoritative, effective words can inspire a man, give him strength. They only need to show consideration for every man and estimate objectively the results of his combat training and actions in the air.

Before operational and night flights or flights in unfavourable weather conditions, the pilot may become excited or agitated, and that is quite natural. His attention and feelings are sharpened. He becomes extremely concentrated and less subject to fatigue, his capacity for work increases. Coordination of his movements improves and he

reacts more quickly to instrument readings and commands from the ground. There is, so to say, maximum mobilisation of the man's psychological powers.

It is different if the pilot's nervousness is caused by lack of confidence. In that case the commander should raise his spirits before the flight, inspire him with confidence. After a successful flight he must also show consideration for the pilot, and praise or commend him if he deserves it. This will encourage him for more complicated missions.

In mastering a flight programme and performing operational flights, one cannot count, of course, on success only. Every airman can be confronted with difficulties in the air, and hence the possibility of failure. Pilots respond to this in different manners. In some of them these failures strengthen their will, persistence, striving to overcome the difficulties at any cost and master the technique being worked up, while the others, admittedly few in number, lose confidence. Such a pilot becomes inattentive, secretive and inert, sometimes he even loses the striving for perfection. It is essential that the commander, political worker, his senior mates notice this fact in due time, help him realise the causes of his failures and show him how to overcome them. But use should not be made of persuasions alone, sometimes it is wise to be extremely exacting and uncompromising towards shortcomings.

The individual approach plays an important part in cultivating confidence. One man requires only a heart-to-heart talk, another praise for a successful flight, encouragement, support. Some men are greatly influenced by critical remarks during analysis of the flight, etc. That is why a cautious attitude to mistakes made in flight is important. In analysing their causes skilful commanders dwell on them only as long as is required to help overcome them as quickly as possible, and main emphasis is placed on trying to convince the pilot that he is capable of improvement, that next time the results will be undoubtedly better provided he draws right conclusions.

There are certain limits which must not be overstepped in pilot's success. It sometimes happens that commanders overestimate the airman's capabilities and training level, which leads to complacency and conceit.

Something like that happened with Senior Lieutenant Ye. Ionkin. This pilot made a lot of successful interceptions in complicated weather conditions. At the critiques he was more than once cited as an exemplary pilot. The flight commander took pride in his subordinate's successes and never missed an opportunity to use Ionkin's experience to teach others. Certainly, there is nothing reprehensible in that. The trouble was that the flight commander did not attach importance to the fact that the pilot began to get puffed up and came to believe he could make no mis-

takes. That once let Ionkin down badly: he failed to intercept a target. Having got airborne the pilot had no doubt of his success and relaxed. When he reached the interception line he suddenly saw on the scope not one blip, as he had expected, but two. Given adequate training, Ionkin would have been prepared for such a turn of events; he would have quickly oriented himself in the given situation and guessed that the actual target was the blip on the right (judging by the ground commands it was approaching on that side). But internal slackness and reliance on easy success threw him into confusion. What target of the two to engage? A few seconds of hesitation were enough for him to lose the opportunity to deliver a strike. As the interception was carried out at supersonic speed the possibility of correcting the mistake was completely ruled out.

So-called special flight conditions (actions in complicated and unusual situations requiring an immediate and correct decision) strengthen the pilot's self-confidence. Having successfully accomplished such a mission, the pilot becomes, as a rule, confident that he will find the way out of even a more complicated situation. But as we know, extreme cases cannot be foreseen beforehand. What to do? There is a reliable method: to prepare carefully before each flight for actions in extreme situations, to cultivate in airmen emotional and volitional stability in anticipation of various unexpected cases in the air, to train them in conditions closely resembling combat.

Indeed, tense conditions, close to those of battle, predetermine in many instances the correctness of the pilot's thinking, the degree of his volitional strain and the character of his actions. If combat training excludes indulgence and oversimplification, the pilots, knowing how to operate competently in difficult situations, gain self-confidence, and this is of great help to them in actual fighting.

When planning the sequence of exercises, one should avoid excessively complicated actions that are beyond pilot's powers at the given training level, since they may result in incomplete mastering of the programme and lead to lack of confidence. After that much time will be required to restore the pilot's previous psychological stability.

A modern pilot has to deal with the most sophisticated equipment and he should possess sound knowledge, courage and valour to be able to control such a machine. Only he who knows well the plane entrusted to him, believes in his own ability and airmanship, and is sure that he will cope with the mission assigned, will achieve success in the air. To cultivate such confidence in air fighters is the everyday concern of every commander and political worker.

GROUND FORCES

HELICOPTER SUPPORT OF GROUND ACTIONS DISCUSSED

Moscow SOVIET MILITARY REVIEW in English No 8, Aug 81 pp 19, 21

[Article by Maj G. Losev: "Air Attack" under the rubric "Combat Training"]

[Text]

SUBUNITS of the land forces managed to break through the "enemy" forward edge, but during pursuit they met well-organised resistance in the depth. Surviving fire emplacements and anti-aircraft weapons organised a fire screen.

"Enemy" reserves detected by reconnaissance in a copse adjoining the combat area presented a special danger to the attackers because they could have hampered the offensive by launching a counterattack.

Before the action, during rehearsal of probable variants, it had been decided to use a surprise helicopter attack to give fire support to the motorised infantrymen. The pilots had to deliver a blow at the "enemy" in immediate proximity to the friendly troops. This imposed a special responsibility on the airmen and they clearly realised how difficult it would be to implement such a plan. The opposing side had two advantages. First, it seemed that the absolutely open terrain completely ruled out the possibility of a surprise air attack and, second, inclement weather conditions extremely complicated pilots' actions.

But it was not for the first time that the pilots had to accomplish a

mission in such complicated conditions. The helicopter squadron commander did not doubt the efficiency of his subordinates. Many of them were experts at their jobs. Much consideration is given in the unit to studying the tactics and combat materiel of the ground forces and the peculiarities of modern battle.

Joint lessons, training and briefings of helicopter crews and motorised infantrymen before such tactical exercises have become a tradition. They improve mutual understanding and organisation of cooperation, help accomplish successfully the missions assigned.

Before the exercise Party and VCL meetings had been held in the squadron. The speakers put forward a number of valuable proposals for improving the personnel's training standard and the quality of aviation equipment maintenance. The commander and his deputy for political affairs saw to it that socialist emulation had spread in the unit under the motto "Every bomb, missile, projectile on the target." At the tactical briefing the pilots rehearsed once again different versions of fulfilling most probable assignments. The command held talks with the personnel and an exchange of experience took place.

A good, constantly renovated training base contributed in large measure to enhancing the flying personnel's tactical skill. For instance, in a tactics classroom, containing different stands, models of the terrain, firing ranges and targets, as well as diagrams showing the tactical methods and technique of overcoming air defence and carrying out combat manoeuvres and attacks, the pilots found answers to many of the questions interesting them. When preparing for the exercise here, they made use of the available information and data on the equipment, weapons and methods of their employment.

The airmen praised highly their rationalisers and skilled men who, in accordance with the decision of the unit methods council, had made models of features of the relief, landmarks, standard targets, anti-aircraft equipment and other appliances, which enabled the instructors to quickly change and complicate the situation.

This was done also in preparation for the given exercise. Making the best use of the training base at class and group exercises, the pilots displayed creativity, initiative and activity in solving various narratives.

In combat training the squadron commander attaches much importance to cultivating in his subordinates the ability to programme and model their assignments and perform required calculations with accuracy. This enhances their self-reliance and allows them to perform air manoeuvres more reliably. During a test check the commander found no shortcomings in the pilots' training level. The crews competently reported the mission performance procedure and presented well-grounded decisions backed by calculations of combat manoeuvres and methods of attacking ground targets.

The exercise began and the squadron was assigned a combat mission.

The first to take off was a pair of helicopters with the mission of carrying out additional reconnaissance of the revealed targets. Additional reconnaissance is used, as a rule, in cases when it is necessary to destroy mobile targets on the battlefield. Helicopter crews and forward air controllers performing additional reconnaissance can considerably simplify the strike group pilots' accomplishment of the mission by supplying them in due time with the required data on the presence and coordinates of targets, by referencing the latter to distinctive landmarks and by determining the attack methods according to the situation. These data help the group leaders adopt final, most sound decisions for destroying the targets revealed.

The first helicopters of the strike group were approaching the battle area. Though during the whole flight the pilots maintained a low altitude to ensure against detection and in spite of poor visibility, the group manoeuvred with precision to penetrate the "enemy" air

defences and approached the assigned square in the predetermined time and at the preset place.

Horizontal visibility in that day was a bit better than vertical and the leader decided to launch an immediate level attack. The concept seemed sound, but while preparing for the flight and when en route the commander ignored the fact that bomb explosions would cover the targets with smoke and dust. As a result, the follow-up helicopters could not attack the targets by the same method and the leader ordered them to stage a diving attack. This increased the probability of detection by the air defences but the airmen had the advantage of the smoke screen produced by the explosions. Besides, the conditions for target destruction were greatly improved.

Aerial reconnaissance spotted a group of camouflaged tanks on one of the sites and Major V. Pozdeyev's flight was given the mission to attack them. Many times the pilots had had to work up similar missions in the classroom using helicopter models. They changed the conditions, offered different variants, performed comprehensive calculations of the most efficient combat techniques and tactical methods of destroying targets on the battlefield. This training now proved of good use to them.

Though the pilots knew the coordinates of the "enemy" tanks, it was not a simple task to detect them as their camouflage painting, the bushes and camouflage means made them almost indistinguishable. But the experience gained by the pilots in searching for the targets helped them solve this mission. Major A. Kozyrev, navigator of the leading plane, was the first to detect the tanks. He referenced them to characteristic landmarks: to a

point from which the wood began and to a small swamp on its far side clearly seen from the air. This referencing facilitated the pilots' precise target approach after they had performed an antilack manoeuvre.

The equipment of modern winged and rotary aircraft ensure high manoeuvring accuracy, but in combat it is better for the pilots to make a visual approach. Their main attention is focussed on checking the heading, the speed and the time of flight combined with visual orientation and handling of radars. Without such checking, one may accidentally attack friendly troops.

The command was heard: "Target on the left near wood. Attack from left one by one." Some time later a crushing blow was dealt to the targets. Successful accomplishment of the mission was the result of persistent and tedious work in the classrooms, of a tireless striving for the highest marks in airmanship. Subsequent analysis showed that in the given situation the commander's decision was the most appropriate and all the flight pilots fulfilled it in a masterly manner.

On the airfield the airmen were congratulated on successfully accomplishing the mission. But the offensive of the ground forces continued. That day the helicopters were sent up several more times to solve various training tasks. The ground personnel carefully prepared the aviation equipment for repeated sorties.

The exercise ended. During the critique the command mentioned competent actions of the crews, analysed the shortcomings revealed and pointed out ways of further developing the combat training standard. During the exercise all the participants received good training in conditions closely resembling battle. The experience gained provided the pilots with a foundation for further improving their fighting skill. And that was the most important result.

COPYRIGHT: "Soviet Military Review", No 8, 1981

CSO: 1812/029

GROUND FORCES

ASSAULT CROSSING DESCRIBED

Moscow SOVIET MILITARY REVIEW in English No 8, Aug 81 pp 22-23

[Article by Col I. Osipenko: "An Assault Crossing" under the rubric "Combat Training"]

[Text] An assault crossing by advancing forces is overcoming a water barrier (a river, channel, strait, etc.), when the opposite bank is defended by the enemy. Experience shows that the struggle for water barriers has, as a rule, led to great battles. Analysis of local wars and tactical exercises justifies the assertion that water barriers, as natural obstacles, have not lost their significance in the contemporary period. They allow the defenders to stop the advance of superior enemy forces with less manpower and equipment. Hence the necessity to train forces and staffs to force water barriers in different theatres of operations.

DEPENDING on the situation a forced crossing can be carried out on the move or from a position in close contact with the enemy. The main method is crossing on the move which is used for successfully pressing home the attack or pursuing the enemy. It is carried out on a wide frontage and at a high speed. This method deprives the enemy of the possibility to use water obstacles for organising strong defence lines; gives the possibility to gain time and create conditions for a rapid shifting of efforts to the opposite bank.

During the Great Patriotic War (1941-45) Soviet forces successfully carried out forced crossings on the move of such big rivers as the Dnieper, the Dniester, the Niemen, the Bug, the Vistula, the Oder. The forces of the 65th Army, for example, forced nearly 20 different rivers. The former commander of this army, now Twice Hero of the Soviet Union General of the Army P. Batov, emphasises that an offensive with a forced crossing of rivers is the most complicated method of combat action, demanding great skill of commanders and staffs and also a thorough and all-round preparation.

In contemporary conditions when the fire capabilities of subunits have sharply grown and crossing means have considerably improved, troops can force water barriers at high speed. Delivering powerful blows, the attackers are

capable of routing the retreating enemy or his reserves approaching from the depth before his advance to a water barrier and also when he assumes the defensive. Besides, important crossings can, in certain cases, be seized by airborne forces.

The success of assault crossing on the move is achieved by carrying out an active reconnaissance, taking a timely decision, correctly choosing sectors for the assault crossing; securing surprise, striking at the enemy on the approaches to the water barrier and on the opposite bank; by decisive actions of advanced detachments (vanguards) and tactical airborne forces in capturing crossings; thoroughly organising engineer support and ensuring reliable antisircraft defence and stable troop control.

Reconnaissance begins in good time and is carried out on a wide frontage. To obtain data use is made of maps, descriptions, interrogation of the local population and the results of aerial reconnaissance. Reconnaissance groups are sent to areas of proposed combat actions to determine the width, depth, speed of river currents, soil of the valley and the river bed, the character of banks, availability of fords and hydrotechnical structures; availability and condition of crossings; places for organising assault troop, ferry and bridge crossings, sectors convenient for fording by tanks and crossing along the river bed, possibility of using local

construction materials and crossing means; enemy strength, battle formation and fire system. Sectors of the river having concealed approaches and accessible banks, and also places where the enemy defences are weaker or where he does not expect active combat actions are the most advantageous for an assault crossing.

The study of the information on the enemy and estimation of the possibilities of their own troops allow commanders to take a decision for crossing the river while still at the far approaches to a water barrier. If the decision was taken before the offensive, on the approach to the river details of the decision are worked out taking into account new reconnaissance data and the results of fighting. In both cases the decision determines (specifies), among other questions, the method of crossing the water obstacle by advanced detachments; order of crossing by the main forces (sectors of crossing, type and a number of crossings); places, type and approximate time of readiness of crossings built with superior commanders' means, distribution of the crossing means among subunits; initial crossing line and also organisation of control and support.

After that the commander and the staff assign (specify) combat missions to the subordinate troops. Usually subunits of the first echelon are indicated: reinforcing means, zone of advance (for an advanced detachment, direction of operation, for an advance guard, route of movement), sector of crossing and combat mission on the opposite bank; initial line and time of passing it; area of sealing tanks; boundaries; order of advance to the water barrier. Simultaneously the commanders give all necessary instructions on cooperation during the crossing.

Surprise, which is of paramount importance in any battle is particularly effective when carrying out an assault crossing on the move. High speed and wide front of advance to the water barrier and use of limited visibility conditions promote its achievement.

Success depends to a considerable extent on the organisation of engineer support. This includes a number of specific measures: engineer reconnaissance of the water obstacle; making passages through obstacles on the bank and in the water; launching and maintenance of crossings and their approaches; camouflage and protection against floating mines.

Antiaircraft efforts are concentrated on protection of advanced detachments and advance guards while they are capturing crossings and of the main forces when they are advancing, carrying out the crossing and fighting on the opposite bank.

Of all factors the decisive one is to defeat the enemy forces on the approaches to the water barrier and on the opposite bank. Particularly favourable conditions for carrying out this mission arise during pursuit. Firing with all weapons, the attackers strive to forestall the enemy in reaching the water obstacle: to destroy his main forces before the attack and to cross to the opposite bank.

As a rule the crossing begins with the battalions detailed as advanced detachments or advance guards. Advanced detachments bypass (advance guards destroy) the enemy, rapidly move forward, capture on the move bridges and other crossings or force the water barrier on their own means. To secure independence of the advanced detachments (advance guards) it is expedient to attach self-propelled artillery to them. They are also supported by aviation, long-range artillery and fire support helicopters.

Attack of the enemy defences is carried out already during the troops' approach to the river and is intensified with the beginning of the assault crossing. In this case aircraft and artillery strikes are aimed at destroying, first of all, the important objectives located on the forward edge in the near depth. Under favourable weather conditions dominating hulls are bombarded with smoke shells so as to prevent enemy observation.

After capture of the crossings by the advanced detachments (advance guards) the method of an assault crossing by the main forces and their pressing home the attack on the opposite bank are of particular importance.

If an assault crossing on the move is a failure it is carried out after preparation in a short time. A repeated assault crossing will require the enemy fire system to be more fully disclosed, the groupings of fire weapons strengthened, and combat missions of subunits and questions of cooperation to be specified on the spot.

This work may take up from 2-3 to 4-5 hours daytime.

If prior to the offensive the forces are disposed in close contact with the enemy an assault crossing is carried out after planned preparation. If an assault crossing on the move is usually carried out in the same composition they were fighting a battle, a crossing from a position of close contact with the enemy is effected after the necessary redeployment. It is carried out according to the concept of the offensive.

In this case an assault crossing begins with forces of the first echelon, as a rule, during the fire preparation at the fixed time "H" (the moment subunits put off from own bank). The quantity and type of crossing is planned with due regard for the character of the water barrier, availability of crossing means, possibilities for defeating the enemy and order of negotiating the water barrier.

When crossing mountain rivers use is made of fords. Ferry and bridge crossings are organised if convenient sectors are available. In mountains, as compared with usual conditions, it is necessary to detail more men and equipment for evacuation and rescue services. It is also necessary to foresee special security measures (to mark boundaries of fords, constantly observe river's behaviour, to fasten ropes for personnel to cross river, etc.).

On the basis of the commander's decision the staff organises a commandant's service on the crossing sectors. The tasks of the commandant's service are to secure the organised approach of subunits to the water barrier, to maintain the established order, and to observe camouflage

measures. For this purpose commandants of an assault crossing areas and commandants of crossings are appointed and check-points on the initial lines and traffic control points along routes of movement are organised.

Usually staff officers are appointed as commandants of crossing areas, while the commanders of the engineer subunits who organise and maintain these crossings as commandants of crossings.

Firm and continuous troop control is the most important condition of success in any type of an assault crossing. As a rule, unit and formation commanders, being at CPs, observe the crossing in the direction of the main blow. Displacement of control posts to the opposite bank is planned to be carried out after crossing by the main forces' first echelon. Control of the fighting becomes complicated because some subunits are fighting on the opposite bank, others are forcing the water barrier, and still others approaching it. In these conditions much depends on the professional skill of the commander and smooth work by all elements of the control system.

COPYRIGHT: "Soviet Military Review", No 8, 1981

CSO: 1812/029

GROUND FORCES

TANK UNDERWATER RESCUE AND RECOVERY DESCRIBED

Moscow SOVIET MILITARY REVIEW in English No 8, Aug 81 pp 26-27

[Article by Col Eng M. Starostin: "Rescue and Recovery Service"]

[Text]

The rescue and recovery service is organised when tanks cross water barriers moving on the bottom and at assault crossing by amphibious vehicles, with special rescue and recovery groups (RRG) being set up to carry out relevant operations.

A RRG comprises a control element, and a rescue and a recovery team. An officer of the technical service is appointed the RRG chief. The control element includes the RRG chief, a radio operator, a rigger and motormen (rower pontoneers).

The rescue team, headed by an officer, includes a radio operator, divers, a surgeon and several men making up the crew of a launch or an amphibious carrier.

The recovery team consists of a control element, and rigging and recovery sections. The team is headed by an officer of the technical service. It includes a radio operator to maintain radio communication with the RRG chief.

Subordinated to the rigging section commander are three riggers and the driver of the amphibious carrier.

The recovery section is made up of the crews of three armoured tractors headed by a section leader.

The RRG personnel are trained according to special programmes in two stages. At the first stage the teams have specialised training, whereas at the second stage joint practice takes place and efficient control is worked up. The training begins on land and ends on water. Subsequently the personnel's actions are polished up at driving lessons and tactical exercises.

Let us take as an example the organisation of rescue and recovery service at a tactical exercise.

During tank subunits' advance to the pressurisation area the RRG moved at the tail of the column, performing the functions of a technical trail. As soon as the tanks reached the departure area before the assault crossing, Major Engineer M. Petukhov, the RRG chief, moved his group to the designated area. He stopped one recovery tractor 800 m short of the river to enable the crew to get the vehicle ready for underwater crossing to the opposite bank.

When crossing facilities were set afloat and loaded with the necessary equipment, a boat and a launch carrying the RRG control element and the rescue team moored to each other advanced to the crossing range and stopped 10-15 m downstream of the crossing area. The men put on life jackets, and the divers set their equipment at the "ready" position. Mounted on the amphibious carrier, the rigging section under Senior Lieutenant N. Solopov, recovery team leader, took cover near the crossing control officer.

The speed of the current being 0.8 m/s, connecting the winch cable with the tank towing rope without a special device proved impossible. Therefore, a drum with an additional towing cable more than half the river width long was installed on the amphibious carrier. To safeguard the crew of the immobilised tank against exhaust gas poisoning, a special device for feeding fresh air into the vehicle was provided in the amphibious carrier. The air is brought into the tank through the snorkel. By connecting the electric motor of the device ventilator to the tank storage batteries the crew can prolong their safe stay in the vehicle without an oxygen breathing apparatus.

After one tractor had crossed to the opposite bank under water, Sergeant Seleznyov, recovery section commander, ordered the other two tractors to remain on the near bank (Fig. 1), where the crew of one of them prepared for work a pulley block with a total tractive force of 75 tf (Fig. 2).

The recovery section got ready to salvage the tank in two stages: first using the winch and then pulling it up with the aid of a tractor, for which purpose the working (movable) end of the cable was coupled to the first tractor, while the second tractor was to be used as an anchor.

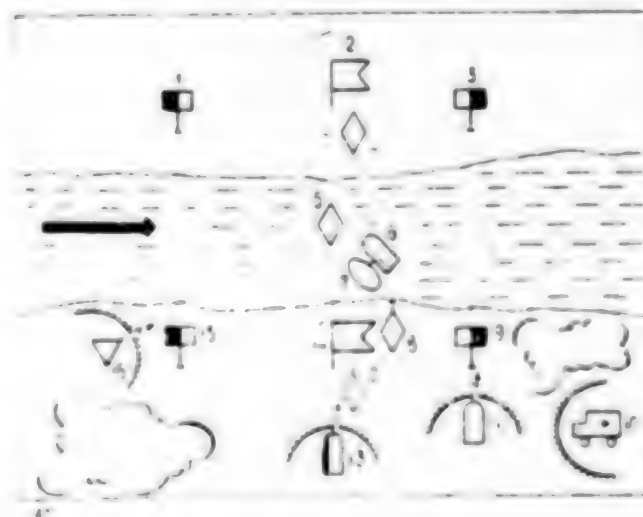
The advantage of this method is that a relatively small tractive force allows both tractors to move as a single system. Should the tractive force increase, the anchor tractor with the spade down stops, while the other drives on.

The radio operator of the RRG control element established communication with the crossing control officer and got ready to receive his commands, while the radio operator of the rescue team established contact with the recovery team.

When the crossing began, the RRG prepared to give assistance to the vehicles immobilised under water. The boat and the launch moored to each other and carrying the control element and the rescue team respectively were afloat 10-15 m downstream of the edge of the crossing underwater line, observing the tanks.

Fig. 1. The RRG Arrangement During Tank Underwater Crossing:

1, 3, 9, 15 — crossing width marks; 2, 14 — range flags; 4, 8, 12 — tractors; 5 — tank with underwater driving equipment; 6 — launch; 7 — boat; 10 — ambulance; 11 — amphibious carrier; 13 — command post carrier; 16 — observation post



One purpose of the exercise was to check the RRG personnel's actions during recovery of a submerged tank. That is why the tank stopped at a predetermined section of the crossing as planned.

The RRG control element and the rescue team approached the immobilised tank against the current so as to keep the tank underwater driving equipment intact. The boat pushed off from the launch and approached the tanks' snorkel.

The RRG chief contacted the crew through the tank intercom system and found out the cause of the stop. He decided against establishing radio communication with the crew, as this would have interfered with steady control of the underwater movement of other tanks.

When it is impossible to establish communication with the crew, the RRG chief orders the recovery team to proceed with preparation of the tank for recovery, and the rescue team divers submerge to contact the crew by signals.

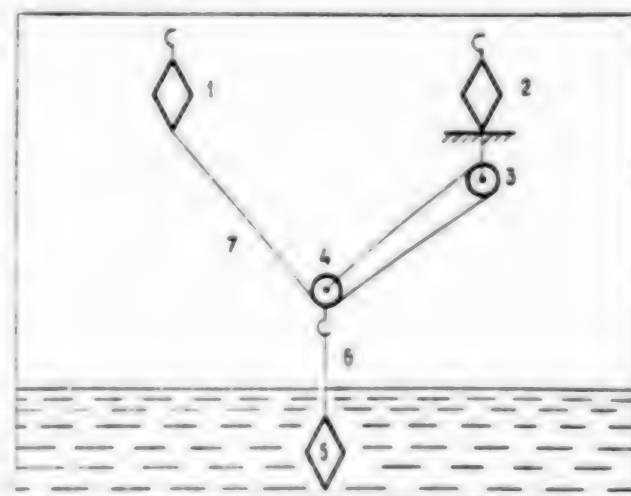
If the tank crew are in a poor condition, the recovery team discontinues its work in order to allow the necessary medical aid to be given to the tank crew as soon as the tank hatches emerge from the water.

The RRG chief chooses the variant of actions most appropriate for the given situation.

If the tank stops through failure of communication, the RRG chief, mounted on the snorkel, instructs the crew over the intercom system or telephone to bring the tank onto the bank. The control

Fig. 2. Recovering Tank From Under Water Using Two Tractors:

1 — pulling tractor; 2 — anchor tractor; 3 — single-roller block; 4 — block with hook and force pin; 5 — tank with underwater driving equipment; 6 — 32-mm dia cable; 7 — 22-mm dia cable



element follows the tank, while the rigging section of the recovery team, which on the RRG chief's command advances to the RRG control element as soon as the tank is immobilised, and the rescue team return to the starting position.

Should the tank stick under water or stop for other technical reasons, the RRG chief orders the vehicle to be evacuated. In this case the RRG's actions are similar to those taken during the tank's stoppage due to quick inflow of water (see below).

When the necessity arises to help the crew to flood the tank and leave it, the rescue team divers cut the engine compartment seal jacket or the gun armour packing and, when the vehicle is completely flooded, open the hatch locks and covers to help the crew leave the tank.

In the case described above the RRG chief concluded that the tank had stopped due to quick inflow of water. He ordered the rigging section to provide a long towing cable and indicated the direction of the recovery. An amphibious carrier approached the boat 2-3 m astern. One of the riggers heaved a line tied to the towing cable thimble into the boat, after which the thimble with a portion of the cable was thrown into the water. The carrier driver accelerated the engine and headed towards the bank, the cable freely unwinding and lying onto the river bottom.

A rower pontoneer attached the underwater end of the towing cable to the thimble of an intermediate rope, after having connected the thimble with the free end of the tank cable lifted from the bottom by means of a cable with a buoy.

The amphibious carrier brought the cable onto the bank to be coupled to the hook of the movable pulley block.

The pulley block was used until the tank emerged onto the sandy river bed. The tractor winch was disengaged, and the tank was pulled out.

The exercise went on.

COPYRIGHT: "Soviet Military Review", No 8, 1981

CSO: 1812/029

GROUND FORCES

TANK UNITS: ATTACK IN THE REAR EXERCISE

Moscow SOVIET MILITARY REVIEW in English No 9, Sep 81 pp 11-13

[Article: "Attack in the Rear; Reportage on a Field Exercise", by Col V. Andrianov]

[Text]

The river was a formidable natural barrier. The mission was to smash the defenders' covering detachment on the other bank, secure a bridgehead and support the crossing of the main body. After that the attacking force was to execute a risky deep turning movement of the "enemy" exposed to all sorts of surprises and to deliver a decisive blow in the rear.

But first a few words on the events that had taken place on the battlefield a little earlier.

The force was carrying out an extremely strenuous two-side tactical exercise. In the course of operations lasting many days the tankmen had to cope with the most difficult narratives.

Even before the meeting engagement began the subunits had received information about the possibility of mines in the way of the attacker. There was information about the presumed area of their location. Indeed, a reconnaissance group located the ground bombs. At the same time the scouts found other obstacles, such as antitank ditches, pillars, road blocks and mine fields.

The engagement started at day-break. The advanced detachment with reinforcing means quickly attacked the "enemy." When success

seemed secured, deafening blasts resounded over the field. A cloud of fire, black smoke and dust blanketed the sky dozens of yards ahead. The air appeared to be ignited by fire raging on the ground. A dense barrier of fire and smoke ominously appeared in the way of the tankmen. The "enemy" had used incendiary means to stop the tanks with a wall of fire. And he succeeded in delaying the advance for some time.

The senior officer decided to penetrate the "enemy" defence position after a brief preparation for the attack. He also found it necessary to execute an elaborate manoeuvre to envelop the "enemy" positions in a sector from which he could least expect an attack and then to strike at his rear.

This mission was assigned to a tank battalion under Major Alexei Gubin, a Communist. We decided to be with him during these crucial hours.

I was watching the developments from a shelter near a broad clearing in the forest. I could see the confident moves of the scouts headed by Lieutenant Anatoly Kholodkov. The combat engineers carefully reconnoitred the bank and marked the passages for the tanks, as well as convenient slopes for descent.

The floating tank and armoured personnel carrier crews prepared the vehicles for the crossing. The scouts' fighting vehicles approached the water. The drivers switched over to the water jet propulsion system. In a moment the AFVs were turned into mobile floating weapon emplacements. The tanks in ambush gave them support.

The scouts had no time to lose. The battalion commander urged them to hurry. He desperately needed information on the steepness of the banks, the depth of the river, the speed of its current and the character of its bed.

The tank battalion column was already approaching the river when I managed to find Major Gubin, the tank battalion CO, in the depth of the column. He was wearing his helmet. His features were drawn and weather-beaten and his eyes were red for want of sleep: the tankmen had been advancing all night. The major went from tank to tank, asking the crews how they felt and about the condition of the AFVs. He said to me:

"I have just ordered the crews to make the tanks water tight to cross the river underwater."

I immediately understood why his weary eyes betrayed uneasiness. Thorough preparations had to be made for such a crossing.

The crews were busy. When the snorkel towers were installed they produced the impression of ship's masts. The impression was strengthened by the cables with many-coloured floats and towing lines attached to the tanks. The men could not afford to overlook anything. For personal safety they put on their life vests and prepared their oxygen masks.

It was there that I met Captain Rybnikov, the deputy battalion commander for political affairs. He was also wearing a helmet and overalls. I asked him about the night march and how the men coped with it. He readily answered my questions.

In the dark two tanks, caught in heaving sand, "landed on their bellies." The tankmen quickly got out of the "trap." They tied a log to both tracks and the tanks got out onto hard ground one after another.

The umpire surprised another crew with a "narrative" ordering them to replace a "damaged" track. The tankmen worked quickly and efficiently. They laid a new track in front of the tank so that, as soon as it started moving, it would get clear of the "damaged" one and drive onto the new one. All the crew had to do was to connect the two ends of the track and the tank was ready to go on.

"In such cases," the captain went on to say, "the men used the most primitive tools, such as crowbars, sledge hammers and prying bars. But our men devised a very simple and convenient tool which expedited the work so that a job which required two men is now done by one."

The tankmen were now faced with another serious test, they had to cross the river underwater. They had thoroughly trained for this, performing drills in special ponds with tank mock-ups. The crews had also made special trial runs underwater and learnt to abandon a flooded tank if necessary. They had been taught to have confidence in their excellent equipment and the officers had developed their ability to surmount the psychological barrier and the skills required to handle oxygen masks and the signal system.

Now drills were a thing of the past. It was time for the men to show what they could do in combat conditions. Early in 1981 they unanimously decided to turn their battalion into an excellent subunit. This pledge was taken in honour of the 26th Congress of the CPSU. It gave them inspiration and redoubled their strength.

The combat engineers laid an underwater track. Emergency recovery facilities were in standby position nearby.

Major Gubin seated himself at the radio in an armoured personnel carrier located at the commandant's post, from which he could see the entire route.

"Close the hatches!" he ordered.

Then the engines began to roar. The tanks moved in a line to the edge of the water. Sergeant Babushkin's AFV was the first to enter the river. First the transmission disappeared under the water, then the body and the flat turret. Only the snorkel tower remained over the surface like the periscope of a submarine. Indeed, the tank itself had become a sort of submarine. The driver mechanic "steered the set course" by the directional gyro. But every tankman knew that the battalion commander on the bank was watching the tank whose position was marked on the surface by a white "bow wave" from the top of the snorkel tower. The entire crossing lay open before the battalion commander's eyes. Two, then three tanks entered the water simultaneously. A fourth was descending down the slope. He gave his orders:

"Number one, forward! Number two, slower. Keep to course. Number three, left a little, a little more to the left. Number four, go ahead. Number one, step on it!"

I observed the battalion commander. His face was set, his eyes were calm, his voice confident. He even found time to say a word or two of encouragement to the crews, to tell them how to behave underwater. His confidence and coolness inspired the officers and men under him. The crossing of the river proceeded as planned. Each crew steered the set course, the tanks emerged onto the opposite bank one by one and took up firing positions.

The water barrier was negotiated without a hitch. The first part of the difficult mission was accomplished with splendid accuracy, though it put a terrific physical and mental strain on the crews.

Those who watched the crossing could not help admiring the excellent Soviet-made equipment and the superb skill of the tankmen.

Captain Iosif Melidze's howitzer battery supporting the tank battalion was to cross the river by a bridge. However, the senior umpire introduced a narrative according to which the bridge was demolished just as the artillerymen appeared on the bank of the river. The captain adopted an original decision.

Being a man of fiery disposition he jumped out of the cab and started to run along the bank. He could hear the firing from the other bank. The engagement had obviously begun.

Seeing the tankmen crossing the river by a deep ford, he hastened to the battalion commander. First the latter would not listen to him, he objected to what the artillery officer was saying. But then he smiled and nodded his head in agreement.

On an order of the battery commander the artillery crews dismounted and disconnected the howitzers from the tractors. The tanks took the guns in tow and proceeded to cross the river. As soon as the howitzer appeared on the other bank it was taken over by the gunners, who had already crossed the river. They lost no time in putting the guns in standby position.

Having crossed the river, Major Gubin led the tank column unobserved through the forest. His subunit then assumed attack formation. Taking advantage of the element of surprise he attacked. The "enemy" tried to put up organised resistance, but it was already too late.

"Pyrotechnician here. One, two!" the battalion commander issued coded orders over the intercom. "Thirty-zero. Tank in trench."

The crews understood him without further explanation.

The turning manoeuvre proved to be a success. The attack overwhelmed the "enemy." He was thrown out of his positions and the tanks switched over to pursuit.

The exercise being two-sided, this imparted great intensity to the action. The force in defence raised real difficulties in the way of the attackers. Both sides had opportunities to display initiative and resort to independent action. This is particularly important in operations by small subunits in present-day warfare.

COPYRIGHT: "Soviet Military Review", No 9, 1981

CSO: 1812/26

GROUND FORCES

QUESTIONS ANSWERED ON COMBAT TERMS

Moscow SOVIET MILITARY REVIEW in English No 9, Sep 81 pp 22-23

[Article: "Modern Battle: Questions and Answers"]

[Text]

"I received an excellent mark for combat use of weapons against ground targets. I was reprimanded for pulling out of the dive too close to the ground."

"Did you lose height?"

"No, I pulled out at 'minimum limit,'" he replied.

Today the expression has gained currency: limit of functioning (of the aircraft), i.e. possibility of performance at extreme heights and speeds. It is necessary to make use of them for improving combat skill, for achieving victory over a strong, crafty and experienced enemy. However, in training flights, to ensure greater safety crews flying over the proving ground are required to maintain uniform altitude or, as in this particular case, an interval with a top and lower limit. Within these limits the pilot tries to do the utmost — to the limit of possibility — to improve the effectiveness of the manoeuvre or fire.

"Despite this, the anxiety of the commander is understandable. I have not committed any 'violations,' though I approached the 'very limit of possibility.' That is why the commander reprimanded me.

"The commander naturally wanted to know why I deviated from the generally accepted diving trajectory. This might have been the result of an inaccuracy, an error in flying technique. In my case it was confirmed by careful calculation."

Lavrov's self-confidence was not boasting. You could see that every time you met him. Recently I was navigator in a flying crew. I have flown with many pilots. If Alexander had offered me to fly

with him, I would not have hesitated a moment.

And I am not the only one who thinks so. Major V. Kotov, a military sniper pilot, is well known in the unit, and not only in the unit. He is a master fighter pilot and interceptor. Speaking of Lavrov he said:

"We judge people by their deeds. And Lavrov is a real pilot and expert commander."

During the years of service much has changed in his life. At present he is a captain, military pilot 1st class, commander of an excellent section, skilled educator of his subordinates. He has a thorough knowledge of aircraft and related equipment, the specifics of operation in various flight conditions.

In mastering skill much depends on purposeful effort. Alexander is a confident and single-minded flyer. He has developed a flying style of his own, distinguished for initiative and effort to work to the limit of possibility. This is a manifestation of the life-asserting force of the new present-day generation of air fighters.

Airborne forces are units and formations and in some armies — corps consisting of parachute, tank, artillery, self-propelled artillery and other subunits (units), necessary to ensure the carrying out of independent combat actions in isolation from the main forces.

Airborne forces in the Soviet Army are an independent arm of the service.

The personnel of airborne forces undergo special training in parachute jumping and actions in the enemy rear. The landing of the men, weapons

and equipment can be carried out either by parachute or by landing on captured enemy aerodromes.

As a rule, the landing is conducted in two echelons. The first echelon is parachuted and the second landed.

The airlift is carried out by military transport aviation. Fighter aviation is also necessary to provide air cover of the flight and the landing area.

According to the missions they carry out and their organisation and armament airmobile forces closely resemble airborne forces. The term "airmobile forces" appeared in the late 50s in the US Army to designate formations, units and subunits of the land forces which in action constantly use helicopters of the army aviation as a main means of movement on the battlefield and of fulfilling the missions of fire support of the land forces. The changes in the character of combined-arms battle due to the appearance of mass destruction weapons led to the necessity for a sharp increase of the mobility and manoeuvrability of the land forces. For this purpose training in large-scale airlifting of subunits, units and formations by helicopters and planes was begun in the US Army, after which airmobile forces began to be used in Southeast Asia.

Thus, airmobile forces are formations and units having special organisation and armament and, in the first place, a large number of helicopters of various purpose for their transportation and fire support. The name of airmobile forces is also given in the US Army to combined-arms units and subunits which have had special training and are reinforced with helicopters for the time of carrying out a combat mission. Also in the US Army special units having in service helicopters carrying ATGMs have been formed to fight strong enemy tank groupings. They are also called airmobile.

Airmobile forces are assigned the following missions: reconnaissance; protection of own troops by blocking approaches and routes on the enemy side; covering operations, action as flank and rear security units; carrying out raids; antilanding and antipartisan actions; tactical air force functions; antitank reserve and also airmobile reserve of a combined-arms unit (formation) commander in defence.

Airmobile formations can have permanently assigned personnel or can be formed as temporary airmobile tactical groups only for a definite combat mission.

The above descriptions of airborne and airmobile forces show that they have much in common.

They have transport which ensures the possibility to carry out broad and quick manoeuvre in the air over great distances and to penetrate into the enemy rear, i.e. they have a high air mobility. It consists in the capability of subunits, units and formations of the land forces to be airlifted by planes or helicopters and to use air space in carrying out combat missions. They also have much in common as regards their missions and methods of carrying them out.

The difference between them arises from their organisational structure, the tactical and technical characteristics of their means of transport and their combat capabilities. Inasmuch as airborne forces use combat planes for their transportation and are even united in airborne corps, while airmobile forces are lifted by helicopters and their largest organisational unit is a division, it is clear that the airborne forces can carry out operations of greater scope and in greater depth. Transport planes have a flying range of up to several thousand kilometres, whereas airmobile force helicopters have a range of only hundreds of kilometres. Airmobile forces are also distinguished by their specific missions such as tank fighting, covering operations, etc.

AN OVERLAPPING FIRE ATTACK

An artillery preparation is usually carried out before the beginning of an offensive. Its purpose is to neutralise and destroy the enemy manpower, weapons and combat equipment, to destroy defensive installations, to disrupt the system of control posts and equipment and to lower the morale of the enemy personnel. The duration and pattern of an artillery preparation depend on the character of the enemy defences, the set density of the attack, the availability of artillery and ammunition and also the missions carried out by the aviation and the rocket forces. When attacking on the move such factors as the time necessary for the troops to deploy and reach the line of passing over to the attack will influence its duration.

Artillery preparation consists of several fire barrages carried out against the enemy FEBA and installations in the depth. The number of fire attacks may differ. When infantry and tanks go into the attack, the artillery preparation ends and artillery support begins.

Artillery support of an attack is a continuous and successive destruction of enemy installations directly before the front and on the flanks of the

attacking subunits for the purpose of providing conditions for their non-stop movement.

It is important to underline that the transition from artillery preparation to artillery support must be carried out unnoticed by the enemy. The longer the enemy is unable to define the moment of this transition, the greater the distance the infantry and tanks will be able to cover without meeting enemy fire, the smaller will be the losses and, consequently, the better chances of success of the mission. For this purpose any interruption in the firing is avoided during the transition. So during artillery support, fire at the enemy FEBA is carried out with the same density as in the last artillery phase of the preparation. Destruction of targets by direct fire, conducted at the end of artillery preparation continues during the beginning of artillery support. Besides, an overlapping fire attack on enemy artillery and mortar batteries is carried out so that they will not be able to strike a serious blow at the attackers. The attack begins 1-2 minutes before the end of the artillery preparation and ends in several minutes after the infantry and tanks reach enemy FEBA. Its duration depends on the distance of the line of passing over to the offensive of the infantry and tanks from the enemy forward edge. Thus, if the distance from the line of passing over to the attack to the enemy forward edge is 900 m, overlapping fire will last over 9 minutes (presuming that the infantry will attack in dismounted formation at a speed of 100 metres per minute). If the overlapping fire attack begins 2 minutes before the end of the artillery preparation and ends 2 minutes after the infantry and tanks reach the enemy FEBA the total time of the overlapping attack will be 13 minutes ($9+2+2$).

Thus, overlapping fire is a fire attack on enemy artillery and mortar batteries for the purpose of interdicting the firing at the attackers. At the same time it is a method which makes it possible to conceal from the enemy as long as possible the transition from artillery preparation to artillery support of the attack.

COPYRIGHT: "Soviet Military Review", No 9, 1981

CSO: 1812/26

GROUND FORCES

VISIBILITY AS A TACTICAL DEVICE DESCRIBED

Moscow SOVIET MILITARY REVIEW in English No 19, Oct 81 pp 12-13

[Article by Col Yu. Chernyshov: "When Visibility is Limited", under the rubric "Combat Training"]

[Text]

When the artillery barrage ended, the motorised infantry battalion went into the attack supported by tanks. This sector lay open and was difficult to negotiate giving a certain advantage to the "enemy." Only too well aware of this the attackers resorted to the following tactical method which was quite a surprise to the "enemy:" Pounding his strong points on the forward edge and in the depth of the defences the gunners laid a smoke screen. The battlefield was shrouded in dense, dark-grey smoke, under cover of which the infantry and tanks manoeuvred quickly. Deprived of the possibility to observe the terrain and to use his firepower effectively the "enemy" failed to repulse the attackers' advance in time and so his defences were pierced.

From the above we see how important it is to act skillfully in poor visibility. This example shows that owing to the limited visibility it was possible to distract the "enemy's" attention, regroup and strike a surprise blow at his weak point. At first the "enemy" was in a favourable position. He had reliable defences set up in advance and saturated with fire and antitank weapons, a well-organised fire system and ranged references. But he was unable to use all these advantages because the attackers' commander laid a smoke screen at the right time. He knew that in the circumstances the use of this tactical method made it possible to reduce effect of the "enemy" fire no less than one tenth and to operate in concealment by depriving the enemy of the possibility of observing the battlefield.

In modern battle units and formations frequently have to operate in poor visibility, almost as at night. This may be caused by a sudden change of weather conditions resulting in dense fogs, sand or snow storms, by smoke screens or by dust clouds produced by heavy firing.

Limited visibility substantially affects the organisation and conduct of a battle. Hence it is very important in these conditions to be able to switch over to active operations quickly. Any delay or slowing down of an attack may lead to grave consequences for the attackers. If, for instance, they reduce their activity at nightfall, this would immediately increase the enemy's chances of success. During the 5-6 hours of night-time, for instance, he would bring up his reserves from a great distance and set up stable defences on an intermediate line. As a result, he would check the attackers' advance. Being held back the advancing troops would present easy targets for the enemy, who would subject them to powerful blows. The balance of forces being changed in his favour, the enemy himself would pass over to the offensive.

Thus, one of the warring sides may suffer defeat if it violates the principle of uninterrupted combat activity. So once begun, military operations must be pursued without interruption or let-up in any weather or season of the year and at any time of the day till the enemy's utter defeat. Experience shows that these conditions are indispensable to attain the set goal in the minimum time and with the least losses. By observing this

principle the advancing forces will deprive the enemy of the possibility to repulse unrelenting attacks from various directions, to manoeuvre with his reserves, bring up supplies or organise resistance on new lines.

To enable forces to pursue military operations uninterruptedly in limited visibility, they must be provided with special equipment for delivering aimed fire, or orientating themselves on the terrain, carrying out reconnaissance and marches. This equipment is divided in the following three groups: navigation instruments, night-vision and illumination devices.

Navigation instruments include course plotters, surveying instruments and so on. In the second group are infra-red devices, electronic optical devices with and without lighting, infra-red imaging and television equipment. Illumination means include torches, search-lights, illumination flares, grenades, shells and bombs.

Other measures should also be taken to make it easier for the troops to operate in poor visibility. For instance, after nightfall or in bad fogs it is much more difficult to orientate oneself on the terrain. In these circumstances local reference features and bearings are of great help to ensure a swift advance, to keep strict battle formation and to avoid exchanging fire with own troops.

To be able to move forward without stopping, forces must be given specified references visible both day and night, leading platoons and companies, and instructed how to set out illuminated references and illuminate the terrain and attack targets. Besides, the men must be provided with compasses, lanterns with coloured glasses and light signalling devices (flare guns).

Limited visibility makes troop control and communication difficult. To react quickly to any change in the situation and to give help in good time, use is made of light signals for cooperation, target designation and mutual identification. Such signals must be fit for use at any time of the day, otherwise they will be useless. For instance, a signal produced by a black smoke flare will not be visible at night.

Complicated manoeuvres and redeployment in new battle formations must also be avoided in the dark.

Since night conditions hamper support and reinforcement of combined-arms subunits, it is expedient to reinforce companies and battalions with tanks, artillery and engineers in advance.

In anticipation of night action the artillery must be ready to cope with the following tasks: illumination of the terrain and attack targets, provision

of illuminated references, and designation of lines of attack by light ranges or tracer shells.

Missions set to air forces on a night raid do not differ from those they fulfil by day. But they have difficulties of their own despite the fact that modern aircraft are provided with electronic equipment which may considerably offset the disadvantages of darkness. There are various ways of coping with these difficulties. Taking into account the specifics of orientation and visual observation at night, it is a good practice to designate 'land forces' positions and to specify mutual identification signals in advance.

The use of air defence systems are as important by night as by day. Despite certain difficulties of night flights, enemy aircraft equipped with radar sights and radio navigation systems can deliver accurate strikes at troop concentrations, important installations and control posts. Of great importance in this context are AA subunits of motorised infantry units, these sometimes prove to be the main force for repulsing enemy air raids owing to the fact that the enemy airmen will usually try to fly at low altitudes by night. This may enhance bombing accuracy and complicate the operating conditions of radar observation stations.

Since at night atmospheric noise increases, short-wave transmitters can ensure reliable communication only over short distances. Hence, it is profitable to use UHF stations, which are not so liable to be affected by atmospheric noise. Light signalling can also be used to establish communication. But when using it, care must be taken to avoid interfering with troop control or disclosing one's own actions.

Officers' tactical skill is exceptionally important for success in night operations. For instance, when planning steps to press home a success, the commander must know the tactics the potential enemy may use during a night retreat. In the circumstances his tactical activity will include delaying operations, disengagement and withdrawal. Delaying operations presuppose artillery bombardment and air strikes to make the attackers spread out. Being covered by artillery and aircraft the defenders then withdraw under artillery and air cover to organised positions. Disengagement is usually effected in conditions of limited visibility (after nightfall or under cover of smoke screens). Logistical subunits and the main body of artillery are the first to withdraw. These are followed by first-echelon subunits protected by covering detachments whose firepower should not be inferior to that of the main forces.

Knowing enemy tactics the first thing in the circumstances is to enhance reconnaissance in order to detect when the enemy begins to prepare for and start his withdrawal. His preparation for withdrawal may be disclosed by the presence of recce parties, the installation of luminous markers on the withdrawal routes, the erection of extra engineer obstacles or preparation of decoy firing positions. The shifting of his logistical subunits and artillery deep into the defences is also a true sign of the enemy's withdrawal.

As soon as the recce parties report the beginning of the enemy withdrawal, subunit commanders immediately give orders to start pursuit. Using the gaps in his battle formations, the attackers destroy enemy covering forces and quickly reach his flank and rear, seize important positions, road junctions, dominating hills and crossing sites.

One of the basic principles of tactics is uninterrupted action. It must be borne in mind in training both commanders and their subordinates. Neither darkness nor any other limited visibility conditions should be allowed to affect high combat activity. On the contrary, despite all the difficulties, forces must be able to launch swift attacks, constantly delivering heavier blows, offering strong resistance to the enemy and carrying out high-speed marches.

COPYRIGHT: "Soviet Military Review", No 10, 1981

CSO: 1812/27

GROUND FORCES

MOTORIZED RIFLE UNITS: BATTALION COASTAL DEFENSE EXERCISE

Moscow SOVIET MILITARY REVIEW in English No 10, Oct 81 pp 20-21

[Article by Col V. Smirnov: "Coastal Defence Exercise", under the rubric "Combat Training"]

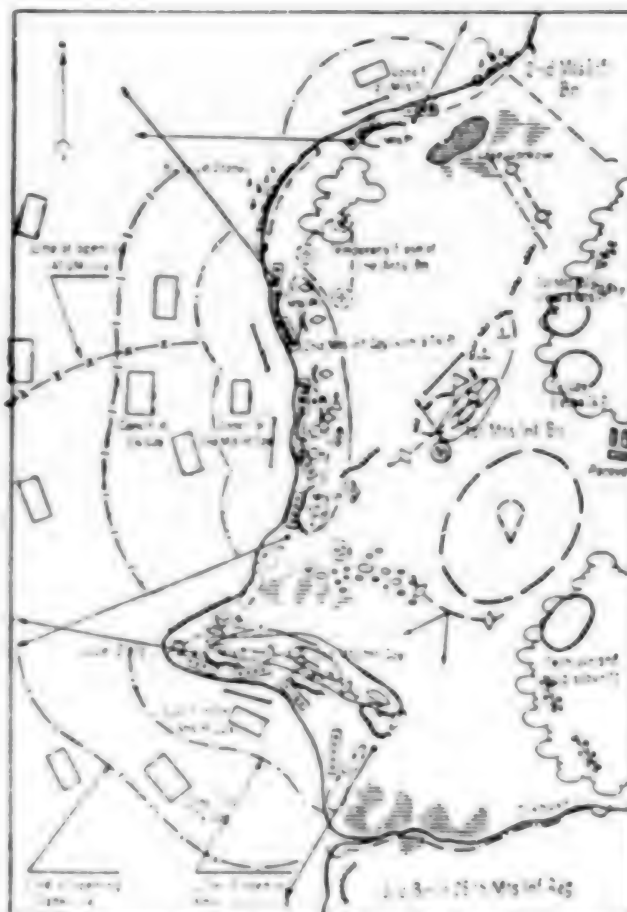
[Text]

The organisation of defence on a coast and certain tactical ways of operating to repulse seaborne landings differ radically from the preparation and conduct of battle in ordinary conditions. These differences result from the necessity to establish defences on a wide frontage and usually out of contact with the enemy. The only enemy approach to the defences is by sea. In order to organise antilanding defences competently, the commander must take into consideration these and other peculiarities.

Let us examine the actions of Major V. Gridnev, commander of a Mts Inf Bn, at a tactical exercise.

The battalion with reinforcing means (attached were a tank company, two ZSU-23-4 self-propelled guns and a sapper section with an artillery battalion in support) was assigned the mission to take over the defence of a coastal area. At first the battalion CO took the decision on the map. In the concept of the combat operation he first of all defined those sectors of the coast the holding of which would secure stability of the whole of the battalion defence system (see Sketch): first (excl) Buryiye Stones — (excl) Cape Dolgy; second, southern part of Cape Dolgy — (excl) mouth of the Tikhiya River. Accordingly the battalion CO decided to assume one-echelon combat formation, organising in the main landing-threatened zones a company strong point (in each direction) and in the secondary zone (in the Gorkoye Lake area) a platoon strong point.

Major Gridnev planned to locate reserves consisting of the 1st Mts Inf Coy (less a Mts Inf Pl) and a Tk Coy (less a Tk Pl) in the Redky Wood in readiness to manoeuvre to strengthen the defences in the most threatened zones, to interdict the advance of any penetrating "enemy" in the direction of Perovo and to destroy possible airborne forces in the area south-west of Perovo. In his battle plan the battalion CO also provided for striking at the "enemy" on the distant approaches with fire from the artillery battalion from temporary fire positions. As soon as the landing craft



approached the coast, tanks, antitank weapons, submachine and machine guns would deliver flank and cross fire at them. In case the "enemy" managed to land and penetrate into the defences he would be counterattacked by the reserve and subunits withdrawn from the sectors where there was no "enemy" landing.

After taking a decision on the map the battalion CO went to the defence area to carry out on-the-spot reconnaissance. He was accompanied by the company commanders and the commanders of the attached and supporting subunits. During on-the-spot reconnaissance he worked out the details of his decision, which were approved by the exercise director (regimental commander). Having issued the operation order for defence Major Gridnev organised cooperation, and gave instructions for supporting combat actions, defined the major tasks of Party-political work aimed at maintaining a high fighting spirit, staunchness and persistence among the personnel.

The battalion CO paid particular attention to obtaining in good time reconnaissance data from the navy forces for installing antilanding obstacles jointly with them.

He organised the fire system so that the battalion could strike as effective a blow as possible at the "enemy" when he was on the water. It depended precisely on this whether the "enemy" would be able to reach the shore and come into close contact with the defending subunits or his attempts would be foiled. The maximum density of fire of all weapons was therefore foreseen in the main landing threatened zones on the near approaches to the coast.

Fighting "enemy" tanks remains the most important factor also in antilanding defence. Therefore according to the decision of the battalion CO most of the antitank weapons were located closer to the shore. Here the commander also took into consideration the fact that they had to fight not only "enemy" tanks but also amphibious craft, amphibious personnel carriers and landing craft, and even close bombardment ships.

Taking into account the great possibilities of contemporary fleets to deliver air blows and to parachute troops all organic equipment and attached weapons of the antiaircraft defence were prepared to repulse "enemy" air attacks. It was foreseen to use duty machine guns in platoons and in case of necessity small arms in subunits to fight low-altitude aircraft and helicopters. Positions for antiaircraft weapons were chosen on the terrain so as to ensure cover from air attacks for the battalion's main forces.

After the battalion CO had worked on the terrain and solved questions of ensuring all-round antilanding defence, the subunit commanders led their subordinates to the appointed areas to take up defensive positions. First of all they organised a fire system. Then the servicemen proceeded to organise positions with engineer works and install obstacles.

Meanwhile the battalion CO was busy with subunits on the spot, checking the carrying out of the instructions issued by him and rendering assistance to his subordinates.

At first he did this in the 2nd Mts Inf Coy, considering that it held defensive positions in the most landing-threatened direction. He specified the siting of positions and checked the platoon, section (tank) commanders' and gunlayers' knowledge of the fire missions, how to cooperate in the company with the attached and neighbouring fire weapons, and establishment of cross and flank fire on the sea surface.

The control was carried out by giving narratives with subsequent practical actions. The battalion CO saw to it that the shortcomings revealed were immediately eliminated. Thus it happened that when the tank company was occupying the firing line (in the strong point of the 2nd Mts Inf Coy) there was no communication between the commanders of the Mts Inf and Tk companies. Major Gridnev immediately indicated a position for the commander's tank close to the CP-OP of the Mts Inf Coy commander. Subsequently this substantially facilitated the organisation of joint actions of the two companies to prevent the landing of the attacking force. In the 3rd Mts Inf Coy he advised how to make better use of the protective features of the terrain against the likely "enemy" fire.

Absence of close contact with the "enemy" diminishes the threat of his undertaking surprise attack and allows the majority of the men to stay in shelters on the reverse slopes of hills during enemy firing. Nevertheless attention was drawn to the necessity for constant reconnaissance.

The battalion CO then checked the readiness of the reserve's coordinated actions for repulsing landings of sea-borne and airborne forces. He paid particular attention to the knowledge and preparation of routes of advance and to timely organisation of positions for deployment lines.

The battalion CO took into consideration the fact that from his command and observation post the terrain on the left flank was not observed. He therefore chose a place

the Cape Dolgy area, where later on an observation post was organised. The chief of staff established communication with it.

Steps were taken to ensure combat, technical and logistical support of the battalion's defence and improvement of subunit control.

The thoroughly considered decision, the efficiency with which combat missions were brought to the notice of subordinates and the detailed organisation of cooperation helped the battalion to achieve success in combat actions against the "enemy" landing forces. Thus, when parachute troops were dropped they were first pinned down by skillful actions of the technical and logistical support subunits and then dispersed and destroyed by a decisive blow of the battalion's reserve.

At the most crucial moment — that of repulsing the "enemy" sea-borne force — the battalion and its attached and supporting subunits acted skillfully and in concert. By the time the ships and landing craft approached the firing line, tanks and subunits of ATGMs had rapidly advanced to

the prepared positions and lines and opened accurate fire. The artillery battalion was firing from temporary fire positions, concentrating on the largest ships and then on the landing craft carrying subunits of the first echelon of the attacking force. As the "enemy" landing force approached the coast the intensity of fire of all types of weapons was increased and reached its greatest intensity.

As a result, the landing of the amphibious force on the coast was foiled along almost the entire battalion frontage. Only on a small sector of the coast north of Buryiya Storms did the "enemy" manage to neutralise the fire weapons in the strong point of the 2nd Mts Inf Coy's right-flank platoon and to land up to one and a half infantry companies and five amphibious tanks.

But he achieved nothing there either: a timely counter-attack carried out by the battalion's reserve with some of the forces of the 2nd Mts Inf Coy and two platoons of the 3rd Mts Inf Coy boldly withdrawn from the non-attacked sectors did not allow the landing force to consolidate on the coast. At the same time the movement of the following "enemy" echelons was held up by fire of the supporting artillery battalion and flank fire of the antitank weapons from Cape Dolgy. As a result the "enemy" was defeated on this sector too. The battalion's defence system held out.

For initiative and resolute actions in the antilanding defence the majority of the battalion personnel were commended by the tactical exercise director.

COPYRIGHT: "Soviet Military Review", No 10, 1981

CSO: 1812/27

GROUND FORCES

HAND GRENADES PAST AND PRESENT DESCRIBED

Moscow SOVIET MILITARY REVIEW in English No 10, Oct 81 pp 30-31

[Article by Col N. Yeishin: "Hand Grenades", under the rubric "Weapons and Equipment"]

[Text] Hand grenades came into use as early as the 16th century. They were initially employed in besieging and defending fortresses. Apart from being heavy and bulky, they were far from safe in handling due to imperfect detonators. It took almost a century to develop and produce a more or less reliable detonator, to reduce the size of the grenade itself and make it more convenient for combat use. And even then only strong, specially selected and trained soldiers could throw such grenades. These soldiers were called grenadiers. Several more centuries passed before the soldier got a reliable and handy missile.

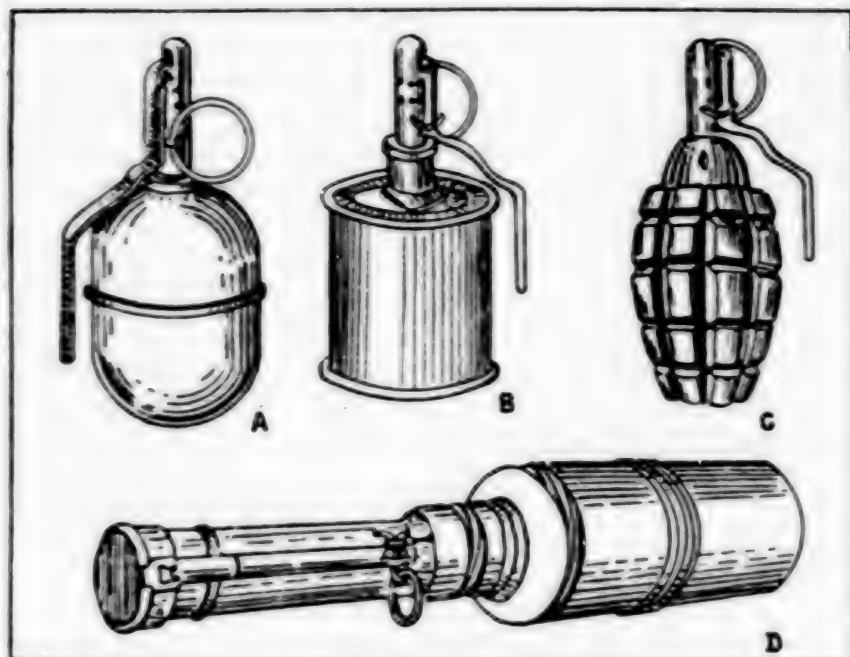
Now the troops are armed with different types of hand grenades classified, according to the combat purpose, as fragmentation and special. Fragmentation grenades are used to destroy enemy personnel in close combat (when repulsing an attack, in trenches, shelters, inhabited localities, woods, etc.). They are subdivided into offensive and defensive and weigh from 300 to 700 g. Producing a tremendous amount of splinters (up to 3,000) they inflict damage upon enemy personnel within a radius of up to 200 m.

Special hand grenades are classed into antitank, incendiary, smoke and others. For instance antitank high-explosive grenades have a light body filled with a powerful explosive charge, and rather a long handle. They are bigger than fragmentation grenades, much heavier (1-1.2 kg) and provided with instantaneous detonators. During the Second World

War new types of antitank hand grenades, hollow-charge grenades, came into being. High-explosive grenades can pierce 20 mm of armour, hollow-charge ones, more than 70 mm.

In the USSR hand grenades have passed the same stages of development as other types of armament. During the first years following the Civil War (1918-20), the best types of grenades that had proved their effectiveness during World War I and in fighting against the enemies of the young Soviet Republic were selected for modernisation.

For instance, Soviet armourers perfected a 1914-model offensive grenade turning it into a defensive one by adding a steel grooved jacket. An old-type French-made defensive grenade which failed to meet battle requirements due to imperfection of its detonator was considerably improved after providing it with a new type of detonator based on a radically new principle. It was successfully used during World War II, and



Hand Grenades. General View
A — RGD-5; B — RG-42; C — F-1
D — RKG-3

In 1933 a defensive-offensive grenade of a unique design was developed. It used a double safety lever making its handling absolutely safe. By its combat characteristics it was much superior to foreign types.

A year before the Great Patriotic War, subunits began to receive a new antitank hand grenade, the RPG-40, weighing 1.2 kg. It was also used against light field shelters, machine-gun nests and for throwing at embrasures. In 1942 the RG-42 offensive fragmentation grenade was adopted and in 1943, the RPG-3 antitank hollow-charge grenade.

During stiff battles against the Nazi invaders hand grenades, along with other kinds of small arms, reliably served the Soviet soldier. And it is not fortuitous that they were called "pocket artillery." Not infrequently the enemy, unable to withstand the pressure of Soviet infantrymen supported by grenades, had to abandon well-organised trenches and dugouts.

On July 11, 1943 during heavy defensive fighting on the Kursk Bulge, two batteries of the 233-rd Artillery Regiment engaged 40 enemy tanks which were trying to penetrate through Prokhorovka in the direction of Kursk. A fierce battle ensued. The Soviet artillerymen fired point-blank at the Nazi tanks but the forces were unequal. Lack of ammunition forced the gunners headed by Lieutenant-Colonel Revin, artillery regiment commander, to use grenades. Again the enemy vehicles had to stop one after another.

Being unable to break the courage and staunchness of the Soviet soldiers, the enemy had to withdraw leaving 16 tanks on the battlefield, many of them disabled by grenades.

At present the Soviet Army is equipped with the RGD-5 and RG-42 offensive hand grenades, the F-1 defensive grenade and the RKG-3 hollow-charge hand grenade.

The RGD-5, RG-42 and F-1 are provided with a modified standard

detonator (UZRGM). Its primer is ignited as soon as the soldier opens his palm, and the grenade bursts 3.2-4.2 seconds after throwing.

Fragmentation grenades go off without fail when even getting into mud, snow, water or sand.

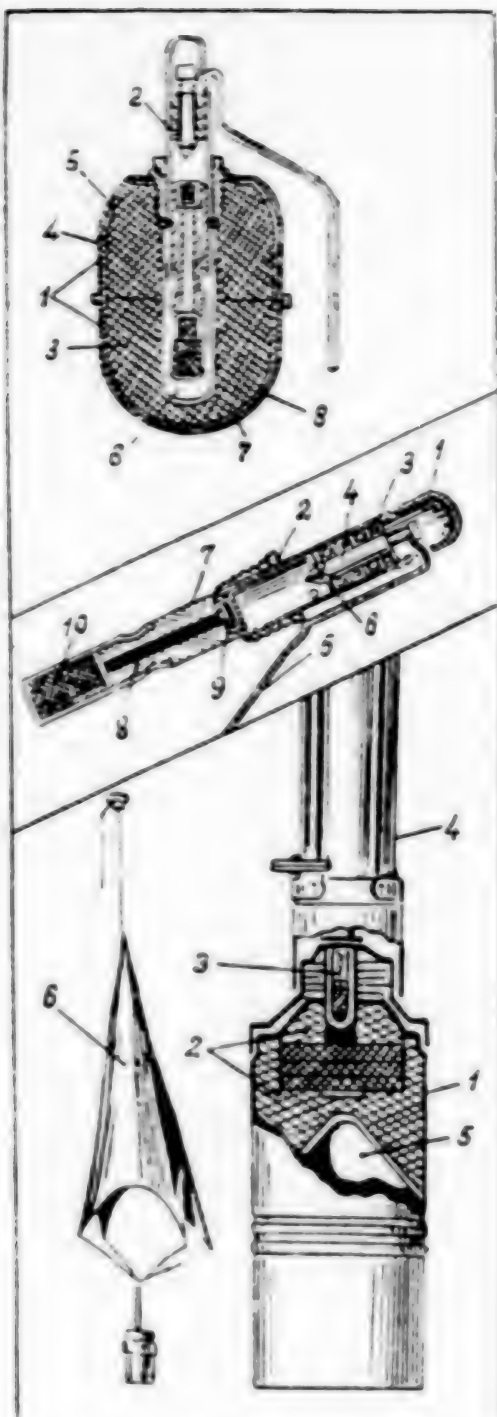
The RKG-3 is designed to fight tanks and other armoured targets (self-propelled guns, armoured personnel carriers, armoured cars, etc.). It can be also successfully used to demolish strong obstacles and field shelters.

The RKG-3 hollow-charge grenade explodes immediately after hitting the target or a solid obstacle. After explosion the grenade's hollow cone converges the gases produced into a narrow stream which can pierce the armour of a modern tank, kill its crew or ignite the fuel.

To train personnel, use is made of dummy grenades identical in shape, weight and handling technique with live ones. Upon impact they produce a clap and puffs of smoke to imitate explosion. The URG-N practice offensive grenade is used to imitate the RGD-5 and RG-42, the URG practice defensive hand grenade imitates the F-1, and the UPG practice antitank grenade, the RKG-3.

The light weight allows a well-trained soldier to throw a fragmentation grenade to a distance of 40-50 metres, and an antitank grenade to 15-20 metres.

The drawings of the RGD-5 and RKG-3 grenades given here provide an idea of the design of "pocket artillery."



RGD-5 Fragmentation Hand Grenade. 1-body; 2-detonator; 3-explosive charge; 4-cap; 5-cap bushing; 6-detonator tube; 7-base; 8-base bushing

UZRGM Detonator. 1-ignition fuse; 2-coupling; 3-striker spring; 4-striker; 5-release lever; 6-safety pin; 7-delay pellet plug; 8-delay pellet; 9-percussion primer; 10-primer detonator

RKG-3 Hollow-Charge Hand Grenade. 1-body; 2-explosive charge; 3-detonator; 4-handle; 5-hollow cone; 6-stabiliser

COPYRIGHT: "Soviet Military Review", No 10, 1981

CSO: 1812/27

GROUND FORCES

TRAINING IN GRENADE THROWING DISCUSSED

Moscow SOVIET MILITARY REVIEW in English No 10, Oct 81 pp 61-62

[Article by Lt Col V. Shchegolyev: "Training in Grenade Throwing" under the rubric "Physical Culture and Sport"]

[Text] **L**ieutenant D. Kozlov, a platoon commander, was to conduct a lesson in grenade throwing. He selected the necessary reference material, wrote out a detailed plan and gave the command to prepare practice grenades and a grenade-throwing ground.

In the beginning Lieutenant Kozlov announced the topic, aims and purpose of the lesson. After that the servicemen performed vigorous physical exercises for several minutes to warm up the muscles and ligaments of the shoulders, elbows and hands.

The platoon commander explained that there are two methods for grenade throwing: with an upward and backward motion of the arm and with a downward and backward motion of the arm. Grenades can be thrown from standing, kneeling and prone positions from the move, and from behind cover. Then he demonstrated the methods of grenade throwing.

To throw a grenade by the first method (with an upward and backward motion of the arm), at first take a position facing the target. Then lower effortlessly the right hand holding the grenade and put the right foot back, transferring the weight of the body onto it, move the hand with the grenade upward

and backward, arching the back and keeping the left hand with the submachine gun in front. The arm motion should be easy and smooth. Then quickly shift the weight of the body onto the left leg and with an energetic swinging movement of the right hand, hurl the grenade at the target. To keep your balance, shift the weight of the body forward to the right foot.

In grenade throwing by the second method (with a downward and backward motion of the arm), the initial positions of the legs and the body are similar to those described for the first method. At the end of the arm swing, straighten it out and turn the fingers upward. Then proceed as by the first method.

In the beginning the servicemen imitated the action of throwing, then

several times threw grenades using the above-mentioned methods. Correcting the servicemen's mistakes the platoon commander reminded them that to throw a grenade accurately and to a great distance it is necessary to hold the grenade and the weapon correctly, and not to strain the muscles of the forearm and hand too much.

Before beginning to work up the throwing technique, the servicemen again performed several vigorous exercises to warm up the arm muscles, made jerking motions of the

hand and elbow, and several throws of grenades forward and downward. Such warming up helps avoid traumas.

Training in grenade throwing from the standing position began with rehearsal of individual elements. The servicemen successively performed these elements, then practised each of them 3 or 4 times, after which they switched over to their execution in sequence, holding the grenade in the hand.

While the servicemen were working up the technique as a whole Kozlov reminded them that all the movements should be done smoothly and with ease. Then Lieutenant Kozlov gave them time to imitate the throws during which he corrected individual soldiers' mistakes in throwing technique.

When the platoon began to work up the technique of grenade throwing from the move, the platoon commander explained to them that in battle this method is used when the situation makes it possible to rise to one's full height and make a short run. He showed the main elements of this method: a short run, a swinging movement of the hand with the grenade and a throw. In doing this Kozlov pointed out that too long a run with a submachine gun

in the hand adversely affected coordination of movements, and therefore every soldier should determine the required distance of the run by practice.

During the lesson some time was devoted to training the soldiers in grenade throwing from the kneeling and prone positions.

"In such cases," he said, "grenade throwing is preceded by creeping unobserved close to the enemy. As compared to the kneeling position, grenade throwing from the prone position allows better results in range and accuracy due to the easier and wider amplitude of movements during the swing and the more active work of the muscles of the legs, body and arms. Throwing from the prone position should be performed quickly in order to deprive the enemy of the possibility to fire an accurate shot. First put the weapon on your right and get the grenade ready to throw. Pull the hands in to your chest. Then, pushing yourself off the ground with the hands but not rising too high, bend the right leg, set it back, rise quickly on the left knee and, moving the hand with the grenade downward and backward in an arc, execute the swing. Then vigorously push off the ground with the right leg, arch the back and turn towards the target. After that fall forward and simultaneously throw the grenade, and prepare for firing."

Kozlov explained that the technique of throwing antitank and fragmentation grenades was the same but there were some peculiarities. For example, in throwing the grenade from behind cover (from the standing, kneeling or prone position), it is advisable to move the hand in an arc downward and back-

ward. When throwing the grenade from a trench, pit or slit trench, the hand moves upward and backward only, and as an antitank grenade is 2-3 times as heavy as a fragmentation grenade, the movement of the hand must be smoother and ampler. An antitank grenade must be thrown along a flat trajectory and released somewhat later than the fragmentation grenade — the instant when the hand with the grenade passes the shoulder line. After the throw, do not wait until the grenade hits the target or the ground but immediately take cover.

During the drill Lieutenant Kozlov saw to it that at the first throws the soldiers paid special attention to correctness and efficiency in executing the elements worked-up and pointed out their mistakes. Then the soldiers made repeated throws gradually increasing their efforts. At this point the instructor's main attention was concentrated on coordination of movements.

During the lesson the servicemen also trained in hitting vertical targets (vertical shields, windows, embrasures), horizontal targets (trenches, craters, etc.) and targets behind cover. They also practised grenade throwing to a greater distance.

At the end of the lesson Kozlov organised a contest for the most accurate and distant throw. This contributed to developing in the servicemen such qualities as adroitness and speed, and improved their ability to measure distances by sight.

OFFICER'S TACTICAL SKILL IN AIR DEFENSE DISCUSSED

Moscow SOVIET MILITARY REVIEW in English No 7, Jul 81 pp 25-26

[Article by Col Eng G. Suleymanyan: "Officer's Tactical Skill"]

[Text] **T**HE TENSION PRODUCED by the air situation did not subside for a moment. As usual, the radar operators were dealing with the following problems: When to expect the first "raid"? Where will the "enemy" try to break through? What are the specific features of the work when a multiple target approaching the objective begins to reform? But this time their work was complicated by quite a few new elements and surprises envisaged by the tactical exercise plan. Nevertheless, the radar crews showed confidence in detecting and tracking targets.

The operations officer closely watched the screen of a remote plan position indicator. He expected the "enemy" to execute a surprise manoeuvre any moment. Then he saw a group of aircraft followed by electronic countermeasures planes turn to evade the radar detection zone. At first glance it might have seemed that the "enemy" had abandoned his initial intention. After a careful look at the screen the crew commander ordered the operators to continue target search in the same sector.

Soon the radar operator again reported the appearance of a target blip. This time it was closer to the screen centre and proceeded on a course coinciding with that of

the previous multiple target blip. What the commander had foreseen was happening. The "enemy" had to execute a diverting manoeuvre to approach the objective unobserved. But the commander's high tactical skill helped him to reveal the "enemy's" intention and thus to achieve reliable tracking of the test target by the radar crew, the altimeter operator and the low-altitude radar operator.

At the critique the senior commander noted the officer's sound knowledge of the enemy's air attack weapons, his ability to foresee the course of events and consequently to take well-grounded decisions in good time.

A high tactical training standard is an important quality which must be cultivated in every radar officer. Tactical skill is especially important when analysing an air situation. There are cases when plotting boards and PPI screens are crisscrossed by target routes, a great volume of digital information is shown on illuminated indicator boards and an endless flow of reports and recommendations is transmitted via communication channels. In these circumstances only a tactically proficient officer can disclose the enemy concept and use properly the available means to en-

sure an uninterrupted flow of information. To this end radar operators constantly improve their training standard both at special exercises and individually, concentrating on the ability to foresee the situation.

To score a success, the officer must know well the enemy's strong and weak points. Therefore, in radar subunits officers are trained to fulfil special tactical missions. These take into account probable altitudes, profiles, speeds and routes of flying targets, their likely manoeuvring at distant approaches and in short-range detection zones and also accidents of the terrain, season of the year, time of the day and weather conditions.

Now it is a common practice for radar subunits to train on electrified terrain models both at lessons and during briefing before taking up duty. The instructor "plays" the battle, demonstrating various tactical methods of action. Each of the officers present learns how to use the available equipment, choose the appropriate radar operating conditions and communication channels and to use the information supplied by the neighbours. In non-standard situations the trainees are taught to disclose the enemy's intention, to identify a target and to foresee its likely manoeuvre by separate features (target type, presence of

electronic countermeasures planes or strike group aircraft, change of target flight conditions at a certain distance from the objective, etc.). In each concrete situation the trainees must specify the procedure for using the main and flank radar stations, what auxiliary equipment should be used and when.

This kind of training broadens officers' tactical outlook and teaches them to foresee the enemy's actions and counteract them.

Of great help is special literature familiarising the reader with plans for the development of air attack weapons or with the new trends of tactical thought. Considerable importance is also attached to special conferences and seminars discussing the methods of neutralising the enemy's new and probable air attack weapons.

To improve the work of one radar crew it was provided with special aide-memoires which helped the crewmen to fight some air attack weapons. To forecast enemy actions, the radar crew commander was supplied with the following initial data: the likely flight profiles of air attack weapons, their speed, manoeuvrability and reflecting surface depending on radar type and operating frequency. The crewmen were also given recommendations on the use of the main and flank radar stations to achieve faultless target tracking, how to identify targets, etc.

A commander's forecasting largely depends on his ability to model variants of "air raids," since this allows him to assess in good time the crews' capabilities from the point of view of quality and quantity. To improve their theoretical knowledge, officers learn "to read" the air situation quickly, to make calculations and to report their conclusions briefly. In the initial period of training they work on a map

showing different variants of action. The trainees polish their skill in estimating the situation and making a decision.

Then the tactical situation is indicated on the CP plotting board by means of simulators. At this stage of training the officer learns to concentrate on primary targets and to set forth his considerations concerning the "raid" pattern. Another training method used is deliberate introduction of an erroneous air situation (incorrect target altitude, poor matching or distortion of target routes, etc.). The officer must make all the necessary corrections and report his decision to the instructor.

When officers change over to practical training their actions are checked by stages. This means that their ability to foresee the situation is checked after each element has been worked up and not at the end of training. This kind of check makes it possible to find out without delay the officers' faults in estimating the situation. If necessary, the instructor may simulate repeatedly this or that training stage till the trainees master the new practical skills.

To fulfil his combat mission in the best possible way, the officer must know the enemy well and also be well aware of the capabilities of his own crew or subunit. During training particular attention is paid to the position occupied because its specifics may have a certain influence on radar crews' preparedness to counter enemy threats. Thus, if the officer has a clear picture of radar detection zones, hidden or poorly visible air space sectors or of the peculiarities with which weather conditions change, this will help him take measures in advance to prevent failures in target tracking or missing separate low-flying targets.

However, to cope with a mission, it is not enough to have a sound knowledge of tactics or air attack weapons. If, instead of showing reasonable initiative, the officer does not take a decision owing to lack of confidence or if, which is still worse, he waits for instructions from his superiors, he can be considered as having lost the "battle." The value of theoretical knowledge and tactical skill consists in ability to use them in practice, high combat activity and initiative being particularly important when forecasting the situation.

To develop the ability to operate confidently and with initiative, it is advisable to include new and surprise elements in the training process and to create a swiftly changing combat situation. Such conditions are provided by introducing an increased number of targets and also by combined use of high-speed and low-speed targets, the latter operating close to the radar zone lower limit. Radar crews frequently enough are set tasks purposely including one or two incorrect target routes or too late aircraft detection. This method makes the crew commander's work more complicated in processing data, analysing the situation or matching target routes.

It is a good practice to train crew commanders and operations officers as radar operators. If they possess firm skills of radar operators, they will easily grasp the air situation on the screen and foresee its likely changes in good time.

Well-organised tactical exercises meeting all the requirements of method enhance specialists' combat skill, develop their tactical thinking and ability to foresee enemy actions.

AIR DEFENSE FORCES

ROLE OF COMMAND POST GROUP LEADER DISCUSSED

Moscow SOVIET MILITARY REVIEW in English No 10, Oct 81 pp 18-19

[Article by Lt Col V. Pimenov: "CP Group Leader"]

[Text]

The tactical exercise had reached its climax. Judging by the air target routes plotted on the plotting board you could already have an idea of the "enemy's" intention, you could determine the direction of his main attack. At that moment Major A. Ibragimov was trying to make a full and objective estimate of the situation. He realised that the "enemy" would seek to deal a crushing blow. Therefore, he would do his utmost to ensure concealment and secure surprise. Haste in adopting a decision could do a bad turn. The fact that the "enemy" obviously revealed his intentions aroused suspicions.

Major Ibragimov closely watched the work of the group. He could not help feeling that the decisive moment was approaching. And indeed, the leading target suddenly began to execute a manoeuvre. Other groups of planes immediately changed their direction and altitude. Only then did the true direction of the "enemy" attack become evident. He was staking on a skilful and swift manoeuvre. However, the command post groups were acting with equal skill. Proceeding from their reports Ibragimov quickly prepared the requisite data and issued the necessary orders. As a result, the "enemy" failed to accomplish his mission.

Major Ibragimov had come up against plenty of such episodes during his period of service. What is it that helps him to emerge with flying colours from the most difficult situations? Tactical intuition? Rich experience? Excellent knowledge of the equipment and its capabilities? All these questions call for an affirmative answer.

The group leader should know better than any other command post specialist the characteristics of all air attack means, the methods they resort to pierce the air defences, the air combat formations and other features. Without this knowledge it is impossible to take a correct decision or to accomplish the mission assigned.

Various forms of training, critiques and exchange of experience help develop the necessary qualities and skills in an officer. However, in training command post group leaders main attention is focussed on their immediate preparation for combat alert duty.

After individual study Major Ibragimov arrived at the appointed hour at headquarters for briefing by the unit chief of staff. What did they talk about? Lieutenant-Colonel G. Gavrilenko said:

"We have worked out an effective system for briefing officers. First the officer's knowledge of theory is sounded, as required by orders, manuals and instructions governing combat alert duty procedures. Then the officer is asked questions on special training. Finally, the chief of staff checks his knowledge of practical actions in response to various narratives. After that he is told what he should pay special attention to."

Leaving the office of the chief of staff the officer goes to the political department. Here questions of Party-political work with the crew are specified. The deputy chief of the political department said:

"Major Ibragimov is always abreast of developments at home and abroad. He has studied the

materials of the 26th CPSU Congress. This helps him to carry out his duties efficiently as Party group organizer of the command post group."

Then the major gets information on the condition of the combat equipment, the preventive maintenance periods and the changes that have occurred in the armaments.

This completes the preliminary briefing. He can work with the men.

The lesson is conducted in a classroom in which the work places of specialists are fully equipped so as to simulate the situation at the objective. He begins by asking the men questions. Then he proceeds with practical work. A lot depends on the officer's experience, skill in training methods, his ability to pass on his knowledge to his subordinates.

On the occasion in question Major Ibragimov decided to see how quickly the team would take up their action stations. He therefore ordered the assembly signal to be sounded. The monitoring equipment was switched on at the command post. The information it gathers helps conduct a thorough critique.

Major Ibragimov's team consisted of highly proficient men. So he chose the most difficult version of possible air situations. This was facilitated by simulators. While the specialists prepared the data the officer carefully watched their actions and introduced narratives. Finally he conducted a detailed critique.

At the appointed hour the missilemen formed up. Approaching the unit commanding officer with the smartness required by drill regulations Major Ibragimov reported:

"Comrade Lieutenant-Colonel, the team for combat alert duty for protection of the air boundaries of our Homeland — the Union of Soviet Socialist Republics — has been formed up."

The guard-mounting parade followed. The commanding officer issued clear-cut orders. The National Anthem was played. Though Major Ibragimov had been through this many times he could not help feeling a surge of emotion. Each time he felt as if he were stepping over an invisible line which laid an incomparable responsibility on him.

In the fulfillment of the mission at the command post a lot depends on the efficiency of the group

leader, his skill and ability to act under any conditions.

Major Ibragimov made it his rule to study carefully the air situation on the basis of data received from his neighbours long before the targets reached the zone covered by his detection facilities. At the same time he ascertained additional information. He paid special attention to information on the "enemy" which might later help select authentic data: number of targets, composition, types of aircraft, ability to manoeuvre, periodicity of change of altitude and flight profile. To select the data correctly it is necessary to have an idea of the ground relief, the detection range on various bearings and in directions of concealed approach. Major Ibragimov paid special attention to manoeuvring targets. These could become at any moment high-altitude or, on the other hand, low-altitude targets. Under certain circumstances they could sharply change their course.

The time factor is of immense importance. It is true that the duty officer has only a few seconds in which to take and execute a decision. This is conditioned by the nature of combat today, its dynamism and the rapid development of events. Here the group leaders are assisted by automated control systems. Of course, every officer in the command post group must be highly proficient in operating the automated control system.

The training of Major Ibragimov's crew before taking up combat alert duty came to an end. Major Ibragimov was to give an appraisal of their performance, summing up the results. So he looked through his notes about socialist emulation on alert duty and made entries after control questioning. For in summing up the results every word must strike home with the men so that they will seek to achieve higher proficiency standards.

Periodically a special commission meets to check the officers' political and moral qualities and efficiency. Its members never entertain any doubts as to Major Ibragimov's fitness for duty. Their conclusion is: "This officer is capable of coping with any combat mission."

NAVAL FORCES

TRAINING LEVEL(S) DISCUSSED

Moscow SOVIET MILITARY REVIEW in English No 7, Jul 81 pp 2-6

[Article by Adm N. Khovrin: "Training Level of the Ship's Complement"]

[Text]

The creation of the Soviet Black Sea Fleet was preceded by the long history of the Russian Navy founded on the Black Sea way back in 1783. The Black Sea Fleet sailors took an active part in the Russian revolutionary movement. During the Civil and Great Patriotic wars the Black Sea Fleet provided support for the ground forces on maritime sectors and participated in landing operations, in protecting sea bases and in disrupting enemy marine transportation.

The quantitative and qualitative changes which have taken place in the postwar period in all services of the Black Sea Fleet have enhanced its fighting efficiency and combat readiness. Its personnel demonstrate high proficiency at various manoeuvres and exercises. In 1965 the Fleet was awarded the Order of the Red Banner.

Nikolai Khovrin began his service in the navy in 1941 as a cadet of the Pacific Higher Naval School.

As a navigator of a ship he took part in the war against imperialist Japan.

During the postwar period he was the commanding officer of a destroyer, cruiser and naval forces in the Pacific Fleet. From 1974 he is the Commander of the Order of the Red Banner Black Sea Fleet. Admiral Khovrin is a member of the Central Committee of the Communist Party of the Ukraine, Deputy to the Supreme Soviet of the USSR and was a delegate to the 25th and 26th CPSU congresses. He has been awarded numerous Orders and medals.

The Soviet people spare no pains to implement the decisions of the 26th Congress of the Communist Party of the Soviet Union. Their unanimous support and wholehearted approval of the home and foreign policy pursued by the CPSU are vividly manifested in the military labour

of army and navy servicemen.

Prompted by their patriotic feeling, the personnel of the Order of the Red Banner Black Sea

Fleet show high efficiency in performing their service duties. This year, the first year of the Eleventh Five-Year-Plan period, they are going to mark their professional holiday — USSR Navy Day — with new achievements in their military labour. They are full of determination to fulfil in an exemplary manner their missions, curricula and programmes, thereby making further contribution to raising the combat readiness of subunits, units and ships.

Long sea cruises have become a common practice in the navy today. They enable the crews to improve their skills, for cruises far away from home bases make higher demands on the proficiency of the entire personnel.

The broad term "training level of the ship's complement" includes first and foremost ability to handle weapons and equipment and keep them in constant readiness for action in different conditions, particularly in northern and tropical latitudes, in stormy weather and poor visibility. Besides, it means avoiding emergency situations and eliminating them should they arise. Sailors' high training level is also manifested in maintaining

© "Soviet Military Review," No. 7, 1981.

exemplary order on the ship, in organisation, discipline, readiness to come to a comrade's aid at a difficult moment, loyalty to traditions, etc.

A ship being a particle of the Motherland makes increased demands on the personnel's ability to represent their socialist state with dignity and honour in any foreign port, respecting the local population and its laws. It is noteworthy that Soviet sailors have always lived up to these demands.

Long sea cruises confront ship complements with new requirements in maintaining the intricate equipment and weapons systems in constant combat readiness, in operating the various electronic, radar and cybernetic systems and devices, power plants and diverse auxiliary equipment. The sea tests not only the equipment, but the man as well. To detect air, surface or underwater "enemy," track and fire at him with guns or rockets from a shaky and irregularly moving starting pad calls for quite special skills.

The increased volume and importance of the missions solved by the navy constantly lead to changes in the contents of sailors' training. A modern ship embodies the latest scientific and technological achievements and this has naturally entailed changes in the very approach to training the men and assessing their knowledge and skills. It can be said without exaggeration that sailors' training today embraces all knowledge and skills and all experience of maintenance and combat use of the ship and its weapons and equipment. It is also evident that at the present time sailors must possess deeper knowledge in various fields of fundamental sciences, depending on their speciality.

This necessity becomes particularly apparent in the work of antisubmariners tracking and destroying an "enemy" submarine. Their knowledge of hydrology, for example, gives them a clear understanding of the physical and chemical processes taking place in the water, and skilful handling of search equipment implies not only specialists' technical training, but also their ability to use in practice such an applied branch of mathematics as the theory of search.

Sailors' training standard comprises the ship complement's skills and the level of their professional training in fighting in any situation. It is an important factor determining the ship's readiness for action.

Sailors' proficiency may also include their ability to handle the ship faultlessly during separate or joint manoeuvres with other ships, their skills in using and maintaining weapons and equip-

ment, and also in damage control operations. Besides, it includes physical endurance, adroitness, ability to withstand the hardships of long cruises and to overcome seasickness, heat and cold.

Standing watch in severe cold or steering the ship in stormy weather is a task to be shouldered only by physically and morally steeled sailors. Therefore, it is most important to seize every opportunity to improve the men's training level, both before going to sea and during the cruise itself. The main component of the training is not just long and competent sailing, but the ability to fight a well-equipped enemy in the most complicated conditions. And this is duly taken into account by commanders, political bodies and staffs in organising the instruction and education of the personnel.

A ship's success in carrying out a mission depends on every link, from action station to main control station, from seaman to department head. But the main role is undoubtedly played by the ship's commander, who is personally responsible to the state for the complement, their training and education and for the readiness of the ship and its weapons and equipment for immediate use. This responsibility is particularly great during endurance cruises, where the commander's readiness for action, his will, competence and independence, his ability quickly and firmly to take well grounded decisions, handle the ship competently and make the utmost use of the possibilities of the ship's weapons and equipment and, finally, his uncompromisingness in analysing and assessing the crew's performance are put to a severe test.

To stand this test the commander must constantly keep the ship ready to carry out any mission at any moment and to act successfully in a fluid situation. The commander's erudition in the exact sciences, his deep knowledge of engineering, competence and exactingness to himself and his subordinates help him to think clearly and rationally and to handle the ship efficiently.

The commander's proficiency is also determined by his knowledge of the conditions of sailing at different latitudes and theatres of naval operations and his ability to command the ship rationally and coolly at any time and in any weather. This will make it possible for the complement to fulfil tactical missions competently and to score victory in the most rational way in a naval action.

Let us take as an example the ship commanded by Captain 3rd Rank N. Khalimon.* To improve his own training standard and work up the complement's practical skills the commander planned

* While this issue was being prepared to go to press, we received the news that Captain 3rd Rank N. Khalimon had been appointed to a higher post and promoted to the rank of a captain 2nd rank.

sailing at night, in stormy weather and in poor visibility. Training and exercises in complicated conditions steeled the sailors and developed in them high professional qualities, and greatly improved the commander's practical skills in handling the ship. As a result, the ship received good marks for a great number of missile launchings in a comparatively short period in stormy weather and in poor visibility.

Commanders, political bodies, Party and YCL organisations show constant concern for improving complements' training standards, trying to disclose new ways of doing it.

One of the most important indicators of each crew's training level is perfect teamwork, the ability of all specialists to act efficiently and concertedly and to cope with their service duties faultlessly in the most complicated situations. The basis of navymen's teamwork is their political maturity, ideological conviction, deep understanding of their duty according to the Constitution, boundless devotion to the Socialist Motherland and communist ideals, unflagging loyalty to the Oath of Allegiance and the USSR naval flag, and love of their ship.

Bearing this in mind, commanders seek to organise training at sea so as to combine working up training standards and tactical skills with steeling the sailors' will, developing staunchness, endurance, courage and combat activity. Naval service, where everything is interconnected and where slackness in one link inevitably weakens another, requires particularly strict regulation and high intensification of military labour. Hence the conclusion that the main reserve for improving the quality of training is to make political and educational work on ships more active for the purpose of enhancing sailors' morale. The more thoughtfully and creatively this work is carried out, the higher the training standard.

The attention of Party and YCL organisations on ships centres on problems of activating socialist emulation by strictly implementing its Lenin's principles, e.g. publicity, comparing the results, repetition on a mass scale of the achievements of advanced servicemen and the best examples of military labour, and moral stimulation of excellent sailors. In comradely competition, signalmen, electricians, radar operators, miners, sonarmen, gunners, missilemen and other specialists surpass combat-training standards, master related special-

ties and act even with reduced numbers at exercises and manoeuvres, thereby enhancing their professional training level and combat readiness and ensuring well coordinated work of action stations, crews, departments and complements as a whole.

Speaking at the 26th CPSU Congress, L. I. Brezhnev, General Secretary of the CPSU Central Committee, said: "Socialist emulation spells out innovation by the people. Underlying it are the people's high level of consciousness and initiative. It is this initiative that helps to reveal and tap the

potentialities of production, and enhance efficiency and quality."

It should be emphasised that in recent years socialist emulation has become more efficient and ideologically richer, and its scope has expanded considerably. In our fleet, as everywhere in the Soviet Armed Forces, it has become common practice to organise competition for the title of excellent ships, units and formations and for hitting targets with the first launching, salvo, approach, and at maximum distance. Such patriotic spirit contributes to cohesion of military collectives and improvement of complements' training standard and teamwork.

Maintaining the traditions of revolutionary and wartime ships and traditions which have taken shape more recently has always been part of our educational work. They become the sailors' moral criterion and their guiding star in achieving the best results; they urge the present generation of armed defenders of the Motherland to be like their fathers and mothers, elder brothers and sisters, constantly to imitate their fearlessness and heroism and to multiply the glory of the army and navy.

Naval ships, units and subunits systematically organise meetings with veterans, thematic get-togethers, lessons of courage and other events. Participating in them, Black Sea sailors become acquainted with the glorious combat traditions and learn about front-line cohesion and friendship. Such occasions are of great educational value, for they enhance servicemen's sense of responsibility for carrying out their sacred duty to the Motherland, make them feel personally involved in the achievements of their people building communism and imbue them with stronger love for their ship or unit and urge them constantly to improve their combat readiness and training standard. Everywhere Soviet sailors strive to be loyal sons of their beloved Motherland, ready to defend it with dignity and honour.

COPYRIGHT: "Soviet Military Review,
No 7, 1981

CSO: 1812/028

NAVAL FORCES

DEFENSE OF NAVAL BASES IN WW II

Moscow SOVIET MILITARY REVIEW in English No 7, Jul 81 pp 36-38

[Article by Capt 1st Rank (Res.) A. Basov, D. Sci. (History): "Defense of Naval Bases"]

[Text]

The defence of Soviet naval bases presented a number of peculiarities because the enemy, advancing deep into the country, strove to capture them from the land. Enemy action from the sea boiled down mainly to laying mine fields on lines of communications and blockading bases with planes, submarines and small surface ships.

The Soviet land forces and the navy carried out joint operations in defence of naval bases and maritime areas from the very beginning of the war.

These operations were aimed at holding the enemy down for as long as possible, threatening his flanks and rear and preserving the naval base as a strong point of a fleet.

In a number of cases defence of naval bases also helped stabilise defence lines covering sectors of the most important installations in the hinterland. Thus, the defence of the Hanko Peninsula and Moonsund Archipelago in the summer and autumn of 1941 secured stability of the mortar and artillery positions at the entry to the Gulf of Riga and the Gulf of Finland. The stubborn defence of Novorossiisk in 1942 closed to the enemy the road to the Transcaucasia along the Black Sea coast.

Usually land forces (including Marine units of the base), coast artillery, an air group, a group of fighting ships and air defence forces were included in the defence of naval bases and maritime areas.

Joint defensive actions by the army and navy made it possible to immobilise superior enemy forces in maritime sectors and to inflict considerable losses on him with limited forces. For example, during the defence of the Baltic naval bases at Liepaja, Tallinn, on the Moonsund Islands and the Hanko Peninsula a total of ten enemy divisions were immobilised. If in the beginning of the defence of Odessa (August-October 1941) the enemy concentrated near the city eleven divisions, later he increased their number to eighteen.

Success in the struggle depended on a number of factors including numerical strength and composition of the available forces, correct and timely organised defences and effective tactics of operations.

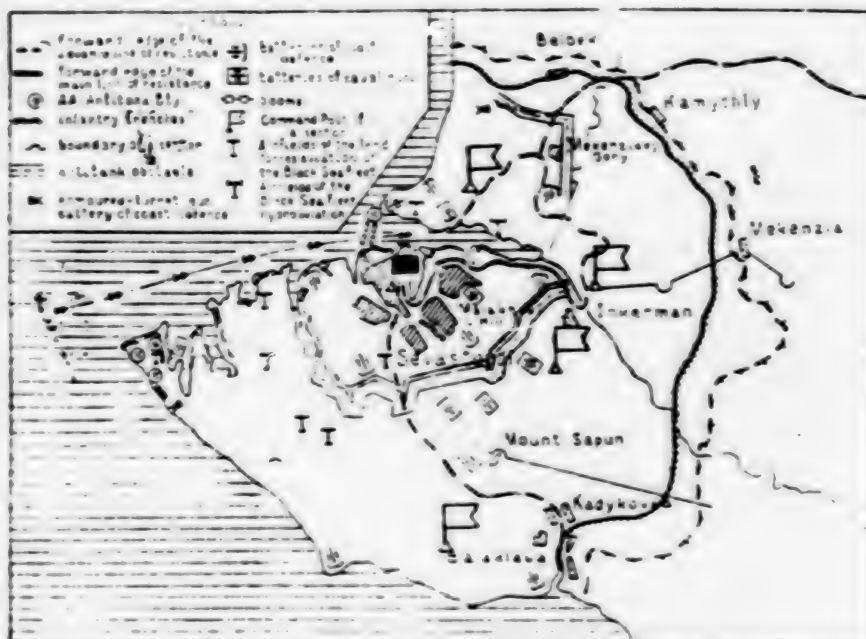
The first experience in the defence of naval bases demonstrated the necessity to concentrate the entire leadership in the hands of the Command of the fighting service which in the given case formed the basis of the defence. Thus, on Au-

gust 19, 1941 the Supreme Command GHQ formed the Odessa defensive area and subordinated to it the units and establishments of the Maritime Army, the Odessa naval base and other military organisations located there. Practically it also included all industrial enterprises and population working for the needs of defence.

Soon the Soviet Command concluded that the struggle for maritime beachheads isolated from the land must be headed by the fleet commander, while bridgeheads designed to protect ground communication lines must be under the all-arms commander.

Subsequently the Sevastopol, Novorossiisk, Tuapse and Northern (including Sredny and Rybachy peninsulas) defensive areas were organised. Such an organisation presented the best form of uniting and using the forces of the army and navy and local resources.

Organisation of defences with engineer works and the fire system were of paramount significance. As a rule, the main defensive line ran within the range of coastal artillery and ship's fire, and at the same time at such a distance that the enemy could not use artillery fire (field artillery) against the port and other



The Sevastopol defence area. June 1942

naval base installations. If the forward line was at a distance of 25-30 km it was considered normal. Greater distance increased the depth and length of the defence line. This demanded a greater number of guns and other fire and engineer means to provide the necessary density of fire and obstructions.

Combat experience shows that the defensive lines of the naval bases which can quickly find themselves vulnerable from the land must be organised in advance. Such a defence was organised on the Hanko Peninsula. Before the enemy attack the defensive positions were occupied by units of the 8th Separate Rifle Brigade and Marines. The defences proved to be insurmountable for the enemy. Almost six months the forces of this forward base fought stubbornly on the far approach to Leningrad from the sea, thus contributing considerably to its defence.

Organisation of the ground defences of the naval bases of Sevastopol, Tallinn and Murmansk began in July 1941. Initially it was carried out by the personnel and the civilian population. Simultaneously ad-

ditional units of Marines were formed. Cooperation of the land forces was organised with the coastal and naval artillery which formed the basis of the fire system in defence. First antitank obstacles and then reinforced fire emplacements were built and trenches were dug. Anti-aircraft batteries were turned into artillery strong points.

Use of aviation was a rather complicated matter. As a rule a defensive area comprised an air group of fighters, reconnaissance and attack aircraft based on local airfields. On the airfields of Sevastopol, for example, several aerodromes were built and the air force ensured protection of the port, ships and constant support of the land forces. But to repulse massed enemy attacks it was necessary all the same, in addition to the available aircraft, to request aircraft from aerodromes on the Black Sea coast of the Caucasus.

The land forces withdrew to a naval base, as a rule, fighting out strong defensive action. It was important not to allow the enemy to approach it on the move. In order to exclude this uninterrupted recon-

naissance was carried out on a wide front and constant communication was maintained with the withdrawing units. The Soviet Command sought to deploy in advance the forces on the defensive lines covering the base.

Sometimes Marine units supported by artillery and the naval air arm took up organised positions and stopped the enemy forward units. Such was the case in Sevastopol. Then the defensive positions were taken over by the approaching land forces which constituted the main force of the defences.

A reliable system of anti-aircraft defence became an important factor. Its foundation was the base's anti-aircraft system reinforced with the anti-aircraft weapons of the withdrawing forces. The anti-aircraft system proved more effective as control over all forces was centralised.

The main role in crushing the enemy forces advancing towards the base fell to the coastal and army artillery, systematically supported by naval artillery. For convenience in controlling and massing forces and fire the defence area was sometimes divided into sectors (Sevastopol, Odessa) or sections (Hanko). All the artillery was under the command of a single artillery commander.

The main missions of the naval artillery were to destroy enemy manpower concentrations and equipment, to fire on definite lines to create a fire barrage, to silence enemy artillery and counterbattery fire. Sometimes it was necessary, in order to render systematic artillery support to the forces, to form temporary manoeuvrable formations — detachments of fire-support ships.

It should be noted that besieged bases lost their significance to a considerable extent as bases for ships and aviation. Only ships and the naval air arm, whose strength was determined by the needs of the defence and also a number of concrete conditions of the situation, stayed at these bases.

Success in defending a base or a beachhead depended to a great extent on the activity of the defenders. If the enemy penetrated our defences he was, as a rule, destroyed by counterblows. Sometimes formations from the Supreme Command GHQ Reserve were sent for the purpose. Thus, in September 1941 the 157th Infantry Division from Novorossiisk was sent to reinforce the Odessa garrison. Jointly with other units it delivered a counterblow on the eastern sector of the defences and in cooperation with the Marines landed in the enemy rear defeated and drove back the enemy who had approached the city and the port to a range of artillery fire. The crisis in the defence of Sevastopol during the December assault, was also liquidated by a quick transfer to the beachhead of the 79th Separate Marine Rifle Brigade and the 345th Rifle Division from the Caucasian ports. They counterattacked the enemy on the move and restored the situation on the front.

In February 1943, during the battle for Novorossiisk troops were landed and the Malaya Zemlya (Small Land) beachhead was formed threatening the flank of the 17th Nazi Army, which was holding the Taman Peninsula. This beachhead had played an exceptionally important role in the defeat of the enemy in the Novorossiisk area and in the liberation of the Taman Peninsula.

The garrison of the Hanko naval base was active and competent in its defence. Gradually its tactical landing forces captured from the enemy 19 small and large neighbouring islands. The Command organised their defence. In order to hamper the manoeuvre of the enemy ships between islands and in fairways small nests of mines (small obstructions) were installed.

Equally active was the Northern Fleet in the Murmansk sector. Regularly landing troops and delivering blows at the enemy flank, the sailors of the Northern Fleet forced the enemy to deploy a certain part of his forces in the North to defend the coast in his rear.

During the enemy offensive some isolated beachheads were left deep in the enemy rear. In such cases the combat efficiency of the Soviet troops in defence depended on the continuity of sea communications. The fleet tried not to allow the blockade of a defended beachhead from the sea. Naval ships and transports delivered reinforcements, ammunition, fuel and other items of supply and evacuated the civilian population and wounded. For example, some 350,000 men were evacuated by sea from Odessa.

Usually sea communications with a defended beachhead were covered by forces of the fleet not included to the defence area and based in the rear. These forces were sometimes enlisted for artillery and air support of the forces holding defences on the beachhead.

In case of necessity a base's garrison would be evacuated. The choice of the method of evacuation depended mainly on the stability of the beachhead's defence and reliability of sea communications. It was carried out either by simultaneous loading of all forces and equipment and their transportation on one trip (Tallinn) or in several successive echelons (Odessa, Hanko). In the latter case the impression was created of usual deliveries to the beachheads to strengthen its defence. The last echelon, numerically the strongest, was transported by high-speed transports and fighting ships. Of paramount importance here was skillful camouflage of the

troops' withdrawal from their positions to the points of embarkation which, as a rule, was carried out by night. It included intensification of the activity of special mobile detachments on the defence line, successive replacement of the army artillery fire by ships' fire, bombing strikes and fire of naval artillery at the enemy forward edge and other measures. The evacuation of the Odessa naval base can serve an example of secrecy and precision.

As a rule transports made sea passages as part of escorted convoys. If the situation allowed groups of mine sweepers, rescue vessels and patrol boats went to meet them. Fighter aircraft were concentrated on the nearest airfields.

The history of defence of the Soviet naval bases is full of examples of their defenders' exceptional courage. Soviet soldiers and sailors and the civilian population displayed staunchness and heroism. A base was left only after absolutely all possibilities for its defence had been exhausted or the operational-strategic situation rendered it necessary. It took the enemy some 250 days to cover the 16 km separating the first outward defences of Sevastopol from the outskirts of the city. In battles for the city the enemy lost up to 300,000 officers and men killed and wounded.

The stubborn defence of naval bases by forces of the Soviet Navy and Army slowed down the enemy advance on the maritime flanks of the land front. It played an important role in frustrating the enemy plans, and created conditions for active actions of the Soviet land forces and fleets.

COPYRIGHT: "Soviet Military Review", No 7, 1981

CSO: 1812/028

NAVAL FORCES

ASW TRAINING DESCRIBED

Moscow SOVIET MILITARY REVIEW in English No 9, Sep 81 pp 16-17

[Article: "Training Antisubmarine Teams", by Capt 1st Rank G. Yefremov]

[Text]

In their aggressive plans the imperialists attach much importance to the submarine arm. New types of submarines possessing higher characteristics compared to previous generations are being commissioned at a rapid pace. Being capable of staying under water for a long time, they can cover great distances and submerge to great depths. They carry nuclear-missile weapons, and can therefore carry out both operational and strategic missions.

It is quite natural that antisubmarine warfare acquires ever greater significance. The quality and efficiency of the search and destruction of submarines depend to a great extent on the skill of antisubmarine teams.

THE ANTISUBMARINE warfare team (ASWT) is one of the most important parts of the whole complicated organism of an ASW ship. It comprises a number of action stations, command posts and separate combat elements. The ASWT is headed by the CO.

SKILL FOUNDATION

ASWT personnel's skill is based on special and tactical training standards, which include the personnel's knowledge of their official duties, of the tactical characteristics, capabilities and peculiarities of operating and maintaining equipment and weapons, and their competent use in different conditions.

To be able to take account of all the specific hydroacoustic conditions in the area of operations and to obtain maximum data on the target and accurate results, every ASW team member, first of all the commander, officers and the command element, should know well the fundamentals of hydroacoustics.

In contemporary conditions the ASW team cannot count on success without accurate and correct

consideration of sea hydrology data. Analysis of a number of investigations shows that lack of attention to this problem may adversely affect the team's actions and result in erroneous actions of ASW forces as a whole.

Firm knowledge of the theoretical fundamentals of hydroacoustics enables the ASW team to determine correctly the operating conditions for ASWT facilities, calculate their range, select the best searching formation, running speed and manoeuvres.

Combat training practice proves that the main goal of the ASWT personnel training must be thorough knowledge of the following characteristics of combat means: error tolerances of searching stations, searching complexes and target designation systems in determining target coordinates, and the dispersion values for different types of antisubmarine weapons. Knowledge of tolerances, for instance, enables the specialists to select the most effective methods of searching or destroying a detected submarine, to select the best position and type of weapon, and to calculate accurately the number of missiles or projectiles in a salvo.

MUTUAL UNDERSTANDING AND TEAMWORK

Complete mutual understanding and teamwork of ASWT men are based on knowledge of the processes of search and destruction of an underwater target and on each man's understanding of his role in the accomplishment of the mission. The most important stages in ASWT work are investigation of the contact with detected targets and their further observation.

Contact investigation is the responsibility not of the sonar man alone but of the whole team. Only common efforts of the whole ship's complement allow the specialists to investigate all the recognition factors of the contact and to identify it with a high degree of reliability. To ensure the best qualitative results, special contact investigation tables have been drawn up for each ASWT station. For example, upon contact the navigator plotting station works on a large-scale plotting sheet which allows clearer and more accurate representation of the initial data on the detected underwater target.

On the command "Target investigation" the ASW team assumes combat readiness and most favourable conditions for the detection equipment are created. The commander takes over command of the team and the most experienced operators go on watch.

At this stage the work of specialists is strictly regulated. It is calculated, so to say, to the last minute and even second. They must quickly determine what factor should be investigated, who and when should report from this or that station on the conclusions as to the identity of the contact and their suggestions on manoeuvring. Elements of mutual understanding and teamwork play an important part at this stage. The commander informs the corresponding stations on every manoeuvre of the ship and any change in the situation. They, in turn, report back the effect of the manoeuvre on the contact characteristics and the optimal distances required to maintain it, radiated powers, angular fields of view, deepening of antennas, etc. It is clear that this complicated process is impossible without continuous mutual contact and complete mutual understanding. But this can be achieved only if the commander and ASWT specialists understand each other at a single word.

Successful direct observation of the detected submarine also greatly depends on mutual understanding and teamwork. At this tense stage, which may last for hours, it is necessary first of all to distribute the team forces correctly among the combat shifts. For instance, the commander must see to it that each shift includes well-trained operators possessing adequate experience in hunting submarines, carefully organise personnel's rest and provide extra food. Much consideration should be given to the correct distribution of Communists and Komsomol members among combat stations, to the continuous flow of information and to control. All this contributes to developing

teamwork, correctly determining detection means capabilities and selecting their optimal operating conditions, and facilitates analysis of the manoeuvres performed by the submarine being chased and of the combat area and its hydroacoustic conditions.

Accuracy and complete mutual understanding are especially required for identifying enemy countermeasures and jamming means and avoiding them or reducing their effect, at the same time keeping the ship in the optimal position.

ACCURACY PLUS AUTOMATIC ACTIONS

Important elements of the ASWT skill are knowledge of the level of basic noises affecting operation of searching means, ability to maintain the parameters of these means constantly within required limits and do everything possible to reduce them. Practice shows that conditions being equal ships of the same class equipped with similar searching means may detect submarines at different ranges.

To increase the accuracy and stability of results before a training search the submarine chasers can determine actual submarine detection ranges on special sea proving ranges using for this purpose either real targets or corresponding mock-ups.

High skill presupposes both accurate work and quick execution of operations. Therefore during training the ASWT personnel must practise the necessary actions until they achieve complete automation. This is an indispensable condition of success in fighting up-to-date submarines, for under modern fluid conditions there is only limited time for thinking over one or another proposition and adopting a decision. Everything should be done in a few minutes or even seconds. The slightest delay may lead to a failure or even defeat.

In this connection it is necessary to underline that each ASW team member must know his official duties by heart and follow combat instructions strictly. The instructions themselves must fulfil special requirements: they must be complete but at the same time brief and precise.

These elements of ASWT skill are mastered in purposeful everyday training. Obligatory minimum norms for different types of crew training have been established both in shore base classrooms and on the ships. The command keeps account of departures of the personnel from these norms and controls the results.

The problems of base training receive primary consideration, because up-to-date simulators permit the personnel to acquire all the necessary qualities and habits without spending ship service hours and fuel resources. They make it possible to create a required situation, "stop" the forces if necessary, return them to the initial position or repeat the manoeuvre.

Conditions in which training is carried out closely resemble a real possible situation that may occur when fighting an active well-prepared underwater enemy. This requires of the ASWT personnel great efforts, judicious initiative and creativity in working out the relevant suggestions and adopting sound decisions.

The highest form of training and perfecting the skill of ASWT personnel is the tactical exercise at sea with participation of submarines. Such exercises are saturated with complicated elements and are conducted in conditions close to real combat. Therefore they provide a real school of skill and maturity for both the ASWT personnel and commanders at all levels. Every exercise plan includes carefully selected training subjects. Each of them specifies what aims must be accomplished and what indicators checked. Investigations to check the efficiency of tactical methods and new types of equipment and weapons also play an important part at exercises. Perfection of ASWT combat training standards is the object of primary consideration in the Soviet Navy, for only highly-skilled experts can successfully fight a modern underwater enemy.

Captain 1st Rank G. YEFREMOV

COPYRIGHT: "Soviet Military Review", No 9, 1981

CSO: 1812/26

NAVAL FORCES

SHORE TRAINING DESCRIBED

Moscow SOVIET MILITARY REVIEW in English No 9, Sep 81 pp 24-25

[Article: "Shore Training Base", by Capt 1st Rank Eng N. Yermolayev]

[Text]

Each cruise of a modern ship requires the complement to thoroughly work up on shore the methods of servicing and combat use of weapons and equipment.

Classrooms provided with sectional dummies of weapons and combat equipment, electrified diagrams and stands, parts of mechanisms and machines and other training aids help considerably to improve the personnel's professional knowledge. This is convincingly confirmed by the experience of organising the instruction process on ships which regularly achieve high results in combat training.

In the past the shore training base was used only for working up skills which could not be practised on board. This was because the level of technological development at the time did not make it possible to provide combat training situations similar to those at sea. At the present time combat training on land and at sea form a single whole, the difference between them gradually disappearing. And it is not without reason that sailors have the motto: "Victory at sea is forged on land." Shortcomings in base training cannot be made up for merely by increasing the number of sea exercises. The Navy Regulations lay down that each training cruise must be preceded by thorough pre-cruise training with the use of training material.

The training material includes various models of weapons and combat equipment, machinery, classrooms, floating craft, visual aids, etc. It combines objects being studied and devices facilitating the personnel's assimilation of the programme and the instructors' preparation for classes.

Analysis of exercises at sea shows that failure to make full use of shore training facilities is a cause of low training standards.

If, for example, a ship has to go to sea several times to work up some elements of combat actions, it is a sure sign of wastefulness pointing to the complement's low base training level and to the ship commander's failure to organise shore training in such a manner that each combat exercise can be carried out at the first run, or, still better, worked into exercises in other combat training missions. Well organised shore training makes it possible to work up various tasks without going out to sea. A sea cruise is required mainly at the final stage of the training to test the complement's knowledge and skills, and their teamwork.

Intensive and well considered use of the training base to impart the necessary quantity of information to the personnel, to enhance training efficiency and to test knowledge and skills livens up the instruction process and raises the efficiency of all kinds of training.

The training base helps to penetrate deeper into the meaning of the matter studied, thereby enhancing the educational aspect of the training. It develops sailors' skill in taking correct decisions and enables them to act promptly in complicated and fluid situations.

Use of training facilities has a strong emotional impact on the men and enables the instructor not only to increase the quantity of information, but also to complicate it and improve the men's ability to assimilate the material, which becomes more comprehensible to them.

Use of training facilities makes the instruction more concrete and promotes a deeper understanding of the essence of phenomena; besides, it provides abundant opportunity for the instructor to show phenomena in their interaction. It also provides more exercise of the trainees' visual memory.

In present conditions sailors have to assimilate a far greater volume of information and in a considerably shorter time than, for instance, ten years ago. This requires the instructor constantly to improve his skill in using the various training facilities.

Accompanying the exposition of the material by demonstration of sectional dummies with special illumination of inner parts, drawings, electrified stands and measuring instruments helps the instructor to explain with maximum efficiency the nature of the physical processes occurring in the complicated weapons and equipment of modern ships, thereby making it possible to reduce the training time required for different specialists to acquire the skills in handling weapons and equipment in modern battle.

Research shows that in practising new actions the human memory generally records 90 per cent of what a man does, 50 per cent of what he sees and 10 per cent of what he hears. Therefore, actions giving practical backing to theoretical knowledge are the most effective form of training.

For this reason wider use is being made in the training process of simulators for inculcating practical skills in the personnel servicing combat equipment of submarines and surface ships. Simulators are intricate automatic systems making it possible to provide conditions close to reality.

By using simulators it is possible to present information visually, to complicate or simplify it, change the parameters of a process, repeatedly imitate conditions which cannot be created on a cruise (emergency situations, serious damage to weapons and equipment), to return at will to the required episode and rehearse it by stages, to obtain automatically an objective assessment of knowledge, monitor the process of instruction, analyse the mistakes or commend certain actions during training.

The advantages of simulators are indisputable. Their use at naval schools allows an 80 per cent reduction of the time required for preparing one's

course paper at the end of the year.

Simulators are also most profitable from the economic point of view. According to foreign specialists' estimates, a simulator pays for itself in the first few months of operation. This can be illustrated by the following example. Whereas a short exercise with the participation of a comparatively small formation of warships consumes 24 million dollars, one hour's use of a tactical anti-submarine simulator costs only 300 to 400 dollars.

Training on simulators not only develops sailors' activity and independence and develops firm practical skills in conducting combat operations in the complicated and fluid situations of modern battle, it also psychologically prepares them for unexpected situations, developing their will power, resolution, firm skills and other valuable qualities. Therefore, modern simulators are an important means of not only professional, but also moral and psychological training of ships' complements.

The closer simulators are approximated to real battle, the greater use is derived from them. It is impossible to create such conditions on a ship even with the use of modern imitation facilities.

Depending on their purpose, simulators are divided into specialised (individual) and crew-served.

To familiarise sailors with the rules for operating different equipment and to achieve their automatic and quick execution of commands, use is made of specialised simulators, which are generally intended for training junior specialists.

For simultaneous instruction of personnel and to develop skills in fulfilling a certain number of group missions, where the actions and reactions of each man are closely interconnected, crew-served simulators are used. They are utilised for practising teamwork of a crew and the complement as a whole in conditions closely approximating real battle and in emergency situations.

It can be said in conclusion that shore training bases are a solid foundation for enhancing combat training level and, consequently, a foundation of high combat readiness.

COPYRIGHT: "Soviet Military Review", No 9, 1981

CSO: 1812/26

NAVAL FORCES

NAVAL AIR DEFENSE METHODS DISCUSSED

Moscow SOVIET MILITARY REVIEW in English No 10, Oct 81 pp 14-15

[Article by Capt 1st Rank L. Yaskov: "Ship's Air Defence", under the rubric "Combat Training"]

[Text]

The forces and weapons of air attack constitute a great threat to fighting and other ships at sea, a threat becomes more serious with the introduction of fundamentally new, far more effective weapons. Among these are anti-shiping cruise missiles, laser and TV controlled air bombs, flying bombs, combat helicopters and VTOL aircraft.

Therefore, to enable the ships to carry out their missions at sea they must be assured reliable air defence. More than that, unless ships are provided with reliable air defence, effective use of naval forces is impracticable in general.

Today reliability of a ship's air defence is ensured by distancing air defence means and facilities in height and range. In principle a ship's air defence system is designed to destroy weapon carriers before they are within range of the ship.

The system comprises a number of subsystems, namely subsystems of observation (detection), anti-missile and anti-aircraft, artillery or fighter cover and radar counter-measures.

One of the essential conditions for effective air defence of ships is to sight the air enemy in time, to have constant, complete and authentic information on him. This is essential for rapid identification of targets, warning of other ships, bringing the antiaircraft systems into standby condition. As soon as the situation has been appraised a decision for action is taken and missions are assigned to crews and stations.

Radar facilities form the basic means for observation of the air situation. As a rule, the ship's radar stations detect targets at a great distance, in broad limits of altitude.

Practically all modern radar systems ensure interception of air targets at low and extreme low altitudes. Though

this is a very difficult task, it can nevertheless be accomplished provided the air defence means are put into standby condition well in advance. When ships form a squadron or a fleet special ships are assigned for radar patrol duty to build up a radar field in the more probable directions of enemy air attacks.

Taking into account that radar is subject to active jamming, radar observation is augmented by visual observation by various optical devices. It is conducted by the personnel of signal-observation posts and other open stations.

The purpose of visual observation is to sight aircraft and missiles attacking at low and extreme low altitudes. As to aircraft and missiles flying at other heights, visual observation helps determine their numbers in group targets (when they fly in close combat formations) and establish the moment the missiles are launched and the bombs leave the bombers so that the ship can execute an evasive manoeuvre.

In organising observation every observer is assigned a sector for which he is responsible. Special attention is paid to small elevation angles — from 0 to 20-30 degrees.

An equally important element of air defence is the system of maintaining the means in a condition of readiness.

The main principle in the employment of air attack means is surprise. Bearing this in mind it is vital to maintain the ship's air defence weapons in a definite state of readiness.

This naturally involves increased wear of engines and materiel, and greater strain for personnel. Of course, a certain number of ships could be used for radar patrol duty. But this is an impermissible luxury.

Normally compromise decisions are resorted to. For instance, radar patrol ships are stationed above all in the most dangerous areas, and only some of ships' air defence means kept in standby condition.

Such decisions must take into account the tactical situation in the area of operations, the degree of danger of air attack, probable composition of enemy forces and the capabilities of ships' air defence means.

As soon as the air enemy has been sighted the situation is appraised to find the most expedient decision as to the employment of air defence means. This represents a most complicated process based on sound knowledge of enemy tactics, the methods of using weapons and various combat equipment.

The personal qualities of the ship's commander and the officers commanding air defence crews play a big role in securing success. This is equally true of such factors as combat proficiency of the personnel, quick response to changes in the situation and ability to foresee the course of an engagement.

The main element in estimating the situation is to ascertain the enemy's intention. For this purpose the main elements in his combat formation are determined.

In assigning a mission to the air defence weapons it is important to take into account their combat capabilities, the conditions for optimal combination of centralised and decentralised control.

In the past the main method of controlling air defence on separate ships and in formations was that of centralised control. But with the introduction of antiship missiles which have small reflecting surfaces and approach the target at extreme low altitudes, the views on air defence control have changed.

The fact that they can be detected mainly at short distances and that there is very little time for taking a decision — often no more than a few seconds — makes it impossible to use centralised control of air defence weapons in all cases.

In new conditions excessive centralisation may lower the effectiveness of the air defence system, deprive the lower command echelons — the air defence battery and unit commanders — of initiative.

On the other hand, complete decentralisation of control may result in concentration of fire on secondary targets which do not constitute the main danger and in failure to counter some of the targets with fire.

The most expedient method of air defence control is therefore the mixed method, which combines centralised with decentralised control.

Choice of the most effective combination of both methods is an indicator of the commander's skill in the use of air defence weapons. It also includes the persistence in carrying out the decision for repulsing enemy air attacks. If a sharp change in the air situation occurs, the commander should immediately alter an earlier adopted decision. The commander's self-assurance plays a big role in this case. While taking into account and executing the orders of the superior command post, he should at the same time assess

the situation himself. At every command level the ship's commander should constantly find ways for arriving at the best decision for accomplishing the assigned mission. At the same time he must display reasonable initiative within the scope of his own powers.

For instance, if the mission assigned by the formation commander for the destruction of air targets no longer meets the situation because of a sharp change in it (some of the targets having proved to be decoys and new targets having been sighted at low height) and there is no time for ascertaining the mission the ship's commander has the right to adopt a decision on his own. Finally, if aircraft or missiles are suddenly sighted it is up to the battery commander or air defence unit commander to take the appropriate decision.

Today an engagement with an air enemy is highly dynamic. There being very little time, ships are as a rule equipped with automated control systems which solve problems of control and optimal employment of forces on the basis of generalised data on the air targets sighted.

Though the process of control may be highly automated the computer cannot entirely replace the human mind. The specialists, therefore, have the last say. In practice situations may occur for which the computer algorithm has made no provision.

Having appraised the degree to which the computer solution corresponds to the actual situation, the commander of the formation or ship can, if necessary, correct the computer solution. It follows that, even though he has "highly intelligent" computers, he must constantly appraise the situation and adopt parallel decisions himself.

If a ship is not equipped with an automated control system, the air situation should be assessed and the decision on distribution of air defence means to counter detected targets taken on the basis of radar or visual observation data, reports of specialists, personal considerations of commanders organising the air defence and preliminary estimates.

It follows that to organise reliable air defence of a ship at sea the commander and his officers must have a sound knowledge of the potential air enemy, the capabilities of their own means. They must also possess skill of control in action.

This is effectively achieved through broad use of trainers and simulators in combat training. Such facilities reproduce all sorts of air situations on screens or plotting boards.

Trainers and simulators of this type make it possible to programme a large number of various situations. The playing of these situations is conducted with the full crew of the ship's main control station and the air defence crews.

When the air defence crews have acquired the necessary skills in estimating the situation, adopting decisions and assigning missions to weapons, the commander carries out drills aboard the ship, first at the anchorage and then at

see in action with real air targets.

Rationally organized working up of skills based on the principle "from the simple to the difficult" helps improve the level of a ship's readiness and maintain it at the level of readiness of the command posts and personnel for beating off enemy air attacks.

COPYRIGHT: "Soviet Military Review", No 10, 1981

CSO: 1812/27

TECHNICAL SERVICING OF MOTORIZED RIFLE (TANK) BTN IN COMBAT

Moscow SOVIET MILITARY REVIEW in English No 10, Oct 81 pp 26-27

[Article by Col G. Petrovskiy: "Technical Servicing of a Motorised Infantry (Tank) Battalion in Defence", under the rubric "Combat Training"]

[Text]

**ON ASSUMING
THE DEFENSIVE**

After passing over to defence out of contact with the enemy, the technical servicing of a motorised infantry (tank) battalion, i. e. preparation of the personnel and combat equipment, maintenance and repair facilities for forthcoming combat actions, etc. can be performed in full scope.

In assuming the defensive when in direct contact with the enemy, technical servicing in a battalion will be carried out as a rule under intense enemy fire.

Organisation of technical servicing in a battalion is the responsibility of the deputy battalion commander for technical service (henceforward referred to as deputy CO). After assessing the situation he determines the most important measures to be taken at once, gives instructions on the technical training of combat vehicles crews and technical service subunit personnel. He also bears responsibility for preparing materiel for combat action, repairing damaged vehicles and handing over any vehicles that cannot be rehabilitated by the time of readiness to the senior commander's

installations. The deputy CO checks the completeness of vehicle SPTA sets and build-up of stocks of parts and assemblies in the battalion technical service section.

Whatever the situation, on-the-spot reconnaissance of the places where technical observation posts (TOP) and repair and recovery parties (RRP) are to be deployed and of the routes along which damaged vehicles will be evacuated must be carried out.

**PREPARING ARMoured
AND MOTOR VEHICLES**

Combat equipment and weapons are serviced in subunit combat formations simultaneously with preparation of defensive positions. The deputy CO should see to it that the vehicle crews are provided with the necessary technical facilities required for the most labour-consuming work.

Maintenance of combat equipment begins when shelters and camouflage means for the vehicles are ready. If the situation does not permit scheduled maintenance in full scope, it can be carried out by stages. Maintenance operations not executed during preparation for combat

are performed in the course of the defensive fighting, during the intervals between attacks or after the enemy has ceased active operations. Their sequence is established taking into account the technical state of the vehicles and operating conditions. In so doing, the maintenance operations which affect the vehicles' fighting efficiency are carried out in the first place, quickly and secretly. All vehicles must not be serviced at the same time, as this may result in reducing the fighting efficiency of the subunit as a whole.

Technical training of the subunit service crews is organised proceeding from the concrete combat situation, experience and time available. It is carried out in the form of demonstration lessons or briefings.

During the preparatory stage the damaged vehicles are normally not repaired in the battalion, and the battalion service facilities are used for rendering assistance to crews in maintenance. Vehicles requiring routine maintenance and those that cannot be rehabilitated by readiness time are evacuated to the regimental disabled vehicle collecting point (DVCP) using the means of the senior commander.

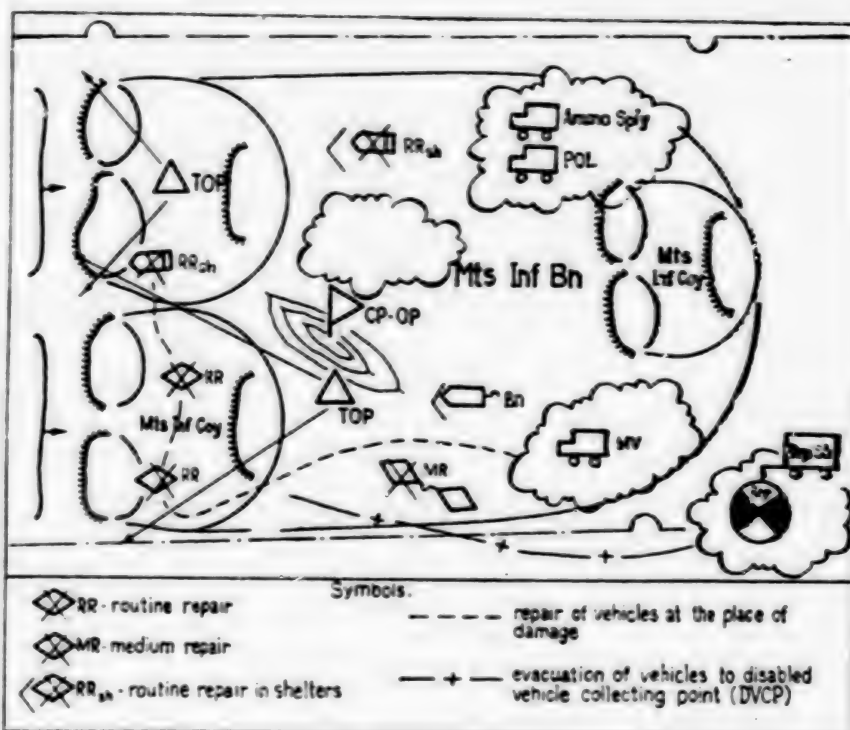
Stocks of armoured and motor vehicle equipment are replenished according to battalion requirements,

not only in the course of defensive fighting but during subsequent combat operations as well. Subunits receive the most frequently needed spare parts, components, assemblies and materials to enable the battalion to perform repair by its own forces and equipment during the forthcoming combat actions.

Organisation of control and supervision over technical servicing. The next stage in the deputy CO's work is to assess the situation and adopt a decision for organising the battalion technical servicing in defence.

In this decision he sets forth the volume of work to be done in the course of defensive fighting while assuming the defensive, the manner and places of servicing and the facilities to be used for the purpose; the location and procedure for using technical service facilities, the composition and tasks of the battalion TOP and RRP, their location and routes of evacuation; the distribution of and procedure for replenishing stocks of armoured and motor vehicle equipment; the steps to be taken to protect the repair and recovery facilities and the battalion repair stock; organisation of technical observation during battle, location of the deputy CO and the communication maintenance procedure.

Then on-the-spot reconnaissance of location sites for the battalion TOP and RRP and of the routes for evacuation of damaged vehicles is organised. The location of the TOP is usually selected in a shelter close to the battalion CP-OP, and that of the RRP in the depth of the battalion defensive positions within direct vision of the TOP. The technical facilities of the battalion RRP must be positioned, using for this purpose the protective and camouflage properties of the terrain. The tank



retriever is placed in a shelter in proximity to the TOP, the maintenance vehicle (MV) and the truck in the depth of the battalion defences under cover of second echelon subunits. Alternate positions for the technical service facilities are also selected, which they occupy if the enemy manages to penetrate into the defences or creates contaminated areas. If necessary, company TOPs are organised.

Having specified his decision the deputy CO gives instructions to the company technicians and the RRP commander. He usually assigns the company technicians places during battle, the kind of maintenance and the time of its execution, the facilities detailed for the crews and how they must be used. The RRP commander is assigned missions of repair and recovery, location areas, routes of evacuation, procedure and time of replenishment of armoured equipment and also protective and security measures. Radio data transmitted over the technical network and location of the battalion TOP are brought to the notice of the whole personnel.

DURING DEFENSIVE FIGHTING

Technical servicing. If the vehicle maintenance procedures have not been carried out in full scope during preparation for combat actions, they are completed in the course of defensive fighting on the positions occupied. This is done during lulls in combat, usually at night. In first echelon companies maintenance is organised in such a manner that in case of a surprise enemy attack the equipment being repaired would be covered by fire of the vehicles not under repair. To ensure this, only one vehicle in a platoon should be maintained at a time in first echelon companies, and one platoon in a company in second echelon companies. If the situation makes maintenance of tanks on the site impossible, it may be performed, with the Bn CO's permission, by turns in the shelters.

Repair and evacuation of defective or damaged equipment and its quick placing in service are the main task of the battalion technical service in battle. This task is fulfilled by the

battalion RRP and the crews of damaged vehicles. By the time of defence readiness the RRP should occupy its assigned location and establish communication with the battalion TOP. The battalion RRP personnel repair damaged vehicles on the spot and in shelters, prepare them for movement under their own power to the places of repair, and recover them from areas shelled by the enemy.

Damaged combat vehicles with serviceable armament are recovered only after the enemy attack has been repulsed. The first to be prepared for movement are the vehicles which, due to the damage received, cannot fire. In some cases for the recovery of damaged vehicles from the threatened directions use can be made, in addition to the battalion or regimental RRP retrievers, of serviceable combat vehicles.

Control of technical servicing is exercised from the battalion technical observation post. During fighting the deputy CO must receive from the subunits timely information on disabled vehicles, their location and the type of damages.

COPYRIGHT: "Soviet Military Review", No 10, 1981

CSO: 1812/27

PERCEPTIONS, VIEWS, COMMENTS

COMMENTS ON THE ARMS RACE AND THE LDCS

Moscow SOVIET MILITARY REVIEW in English No 7, Jul 81 pp 47-48

[Article by G. Petrovskiy, Cand. Sci. (History): "The Arms Race and the Developing Countries"]

[Text]

AS COMRADE L. I. Brezhnev, General Secretary of the CPSU Central Committee, pointed out in the Report to the 26th CPSU Congress, the policy of imperialism had become far more aggressive in character. This has complicated the international situation and, as a result, the arms race has been further intensified. Last year alone overall world military spending reached the 500,000 million dollar mark, exceeding that of the preceding year by 10 per cent. If war budgets continue to grow at the present rate, it may be assumed that in the 1980s overall world military outlays will reach 600,000 million dollars a year.

The instigator of the arms race is US imperialism. Today the USA accounts for one-third of the world's overall military spending. America's NATO partners are making no small contribution to accelerating the arms race. Under constant US pressure they are rapidly increasing their military spending.

The arms race is a terrible threat to universal peace and security. It is fraught with grave danger to the developing countries. It is a heavy burden for their economies and considerably retards their social development.

However, as in the past the imperialists are doing their utmost to draw more and more developing countries into the arms race. In pursuit of their aims they exploit the national, territorial, historical and other contradictions in relations between the newly-free states which have embarked on the road of independent develop-

ment. The Western propaganda machine is trying to arouse in the leaders of these countries a sense of uncertainty with regard to the prospects of world developments and to prompt them to take decisions that would intensify the arms race. As a result, the military spending of developing countries is marked by rapid growth. Thus, in the last 20 years the rate of growth of the war budgets of developing countries has been 20 per cent as compared to 3 per cent for the whole of the world.

At the same time this indicator does not fully reflect the sky-rocketing pace at which the arms race is developing in areas of armed conflicts which have been unleashed or provoked by imperialism. This refers above all to the Middle East and South Africa. Statistical information published in the foreign press shows that the growth rate of military spending in developing countries is higher than that of their aggregate national product. According to the Stockholm International Peace Research Institute, in the last 20 years the aggregate national product of developing countries has increased three to one, whereas their military spending has shown a nine to two growth.

The arms race makes it even more difficult for the developing countries to overcome the aftermath of colonialism. The Asian, African and Latin American countries are confronted with the task of building a modern national economy and a modern social structure. But, being increasingly drawn into the arms race, they are committing

an ever bigger share of their budgets to non-productive military outlays. Way back in 1974 the World Food Conference pointed out that if the developed countries were to reduce their military spending by only one per cent and to hand over these funds to the developing countries, the food problem, which is so acute in most of the Asian, African and Latin American countries, would be largely solved.

Re-allocation of even a small part of the military budgets to the sphere of public health would offer equally great social advantages to the developing countries. The smallpox control programme of the World Health Organisation is a case in point. The overall financial input into this programme was 83 million dollars. This sum made it possible practically to eliminate this dangerous disease. This sum is far below the cost of a modern medium strategic bomber. Another important WHO programme, aimed at eliminating malaria, will, experts say, cost 450 million dollars. But it cannot be launched owing to shortage of funds.

Thus, facts show that it is necessary to adopt a serious approach to curbing the arms race and reducing the developing countries' expenditure on armaments.

The spokesmen of socialist and developing countries, and even of some capitalist states, have repeatedly voiced concern about the mounting arms race. Thus, the majority of the 153 delegates to the 21st Session of the UNESCO General Conference held late in 1980 expressed deep anxiety in connection with the arms race which is swallowing up vast material and human resources. However, on the instigation of the imperialists the arms race is continuing to gain momentum. They are deliberately obstructing all efforts to curb it.

Trade in arms is one of the ways by which the imperialists are combating the efforts to curb the arms race. In 1980 25,000 million dollars' worth of arms were delivered. Two-thirds of this quantity were purchased by developing countries. The USA holds the lead in increasing arms deliveries to developing countries. In the 1970s it increased its arms exports, mainly to Asian, African and Latin American countries, thirteen to one. Today the USA is selling arms to more than 80 countries. According to official information, in 1979 overall US arms sales in terms of money amounted to 13,100 million dollars not taking into account the huge orders placed by the former Shah of Iran. It is Washington's intention further to expand arms sales to other countries. In addition to obvious

financial gains, arms sales give the USA the possibility to influence the policy of the purchasing countries. *Business Week* pointed out that the USA intended to turn arms exports into a central element of its foreign policy.

Uncontrolled US arms exports have led to an increase in the number of American military advisers in the purchasing countries. In addition to obvious financial gains, arms sales give the USA the possibility to influence the policy of the purchasing countries. This provides even broader opportunities for foreign intervention in the internal affairs of these countries.

China is making frantic efforts to expand its arms deliveries to developing countries. The PRC also regards arms sales as a means for realising its hegemonic course in various parts of the world. Today the dangerous cooperation between Peking and Washington can be observed in a wide range of questions of world policy. Such cooperation is conspicuous in arms deliveries to developing countries, especially where their interests are particularly close. A striking case of such cooperation is deliveries of US and Chinese arms to Pakistan, which Washington and Peking, pre-texting a non-existent "Soviet threat," intend to turn into a base for armed aggression against Afghanistan and other peaceful peoples.

A distinguishing feature of the current stage of the arms race is that some developing countries supply arms to the world market. Among them are such countries as Argentina and Brazil. They have been successfully competing with the traditional arms exporters and have been constantly increasing their sales. For instance, in 1980 Brazil sold 800 million dollars' worth of weapons. In recent years imperialist death merchants have shown a trend to supply developing countries with increasingly sophisticated weapon systems. In the 1950s and 1960s they were selling mainly obsolescent arms to Asian, African and Latin American countries. In contrast to this, since the late 1960s the arms exporters have been selling more and more of the most modern weapons. As a result, the purchasing countries acquired the latest types of combat equipment which even the armed forces of the manufacturing country did not yet have.

The mounting participation of developing countries in the arms race also leads to an increasing number of them are building up their own war industries. Most of these industries in developing countries are oriented on the manufacture of unsophisticated weapons. However, the rate of military technological progress in this group of countries is increasing year by year. This

is promoted by the system (which is being practised on an ever increasing scale) of special agreements on the manufacture of separate types of arms on Western licenses. Obviously, the export of Western weapon production processes to developing countries on a mounting scale is bound to open another highly dangerous round in the arms race.

The interests of the developing countries demand that the arms race be ended as soon as possible. However, the imperialists are doing their utmost to prevent this. The aim of their policy is to put up as many obstacles as possible in the way of independent development of the Asian, African and Latin American countries, to preserve intact the system of unequal relations with developing countries, because it enables the imperialists to exploit the peoples and plunder the natural resources of these countries. The ending of the arms race would help solve the urgent development tasks confronting the newly-free countries and would enable their peoples to launch on the road of independent development and progress.

COPYRIGHT: "Soviet Military Review", No 7, 1981

CSO: 1812/028

PERCEPTIONS, VIEWS, COMMENTS

VIEWS OF U.S. ACTIVITIES IN ASIA

Moscow SOVIET MILITARY REVIEW in English No 8, Aug 81 pp 48-50

[Article by A. Shevchenko: "Escalation of Subservience"]

[Text]

Trying to regain the lost ground in the Near and Middle East oil regions after the revolutions in Afghanistan and Iran and the collapse of SEATO and SENTO, Washington is building up efforts to turn Pakistan into its bridgehead in Southeast Asia.

Gendarme functions on the Eastern flank of the Persian Gulf are obviously being handed over to Pakistan, while the Western flank is policed by Israel and Egypt.

The ruling circles of Pakistan jumping to orders from Washington and Peking align themselves with the Moslem reactionaries in a treacherous plot to restore the crumbling imperialist positions in the region. In defiance to the national interests they are dragging Pakistan into a dangerous political gambit masterminded by imperialism in the Middle East.

GIFTS AND FLOWERS

ACCORDING to the Western press the US-Pakistani talks last April dealt with prospective US military and economic aid to Pakistan. The talks resulted in adoption of a five-year military cooperation programme which reportedly provides for annual \$500 mln US military aid to Pakistan which is twice as much as former US president Carter promised to Zia ul-Haq.

"The New-York Times" notes that the US Administration has been radically reviewing its relationship with Pakistan. According to the Indian "Statesman" correspondent in Washington the Reagan Administration is planning to rearm Pakis-

tan into a "front-line state" to protect US interests in the region.

Pakistan's rearmament programme has been planned, it is said, to the stunning sum of 2,500 million dollars to include 250 M-60 tanks, 100 F-16 fighter-bombers, C-30 military transport planes, combat helicopters, antitank and antiaircraft missiles of different classes and many other items.

The US Administration is pressing forward with its plans of escalating the American military presence in Southeast Asia and is presently studying the possibility of building naval and air bases in Pakistan. Pentagon has been seeking to restore its former air base in Peshawar and to set up a new naval base in Gwadar, a strategic point on the road to the Persian Gulf oil-fields.

Agreement has been reached between Washington and Islamabad to use Pakistan as a transit base for the American "rapid deployment force." The "National Herald" suggests that the Pakistani armed forces should be used to intervene in the Persian Gulf developments in case of emergency rather than to resort to direct US military involvement. The White House has already applied to Zia to license the use of Karachi by US aircraft carriers and an air base in Baluchistan as a transit base for US aircraft. Zia ul-Haq obliged and proposed to sign a "mutual defence treaty."

British Foreign Minister Lord Carrington also promised generous bounties to Zia ul-Haq during his official visit to Karachi. According to the "Pakistan Times" London plans to increase economic aid to Pakistan to £32 mln against the general severe cutdown in the British foreign aid programme.

Alarming activities are going on along the Karakorum highway connecting Chinese Sinkiang with Pakistan-controlled Gilgit. This strategic road carrying the bulk of arms shipments from China to Pakistan is being reconstructed and modernised. According to the "National Herald" Peking sent 12 thousand troops to do the job and extended financial aid to Islamabad. Military materiel and equipment flowing freely from China to Pakistan includes light weapons, fighter planes, light tanks, artillery, bombers, patrol boats, submarines, antiaircraft missiles and spare parts. President Zia ul-Haq admitted that during the past 15 years China has delivered \$2 billion worth of military aid to Pakistan. "I am in favour of friendship with China," he added. China's naval Commander-in-Chief Liu Daoshen, who recently toured Pakistan's military installations on the Pakistani-Afghan border, echoed him with emotional profusion: "Your success is our success, your pride is our pride. China-Pakistan friendship is an ever blooming flower."

In June Zhao Ziyang, the Chinese Premier of State Council, visited Pakistan. His stay was exploited to aggravate the situation in Southwest and South Asia. Accompanied by Zia ul-Haq, Zhao Ziyang went to a base used by counter-revolutionary mercenaries to raid Afghan towns and villages, murder women, children and old people, destroy hospitals, schools and supply depots. He handed the mercenaries 500,000 yuans as a contribution to their terrorist activity against the Democratic Republic of Afghanistan.

CONCERN IN INDIA

THE MILITARIST plans of the USA and China and the new round of Pakistan's rearmament cause deep anxiety among the neighbouring countries.

Washington officially declared its support for the Afghan counter-revolutionary forces in their incursions into democratic Afghanistan. The US openly supplies them with arms and equipment.

Pakistan has been a bridgehead of aggression against the DRA since the early days of the Afghan revolution. It accommodates 30 special camps and 50 resistance centres at which US and Chinese "advisors" and "specialists" train cut-throats for the counter-revolutionary sabotage groups operating against Afghanistan. They raid Afghan towns and villages, murder women, children and old people, destroy hospitals, shops, schools and supply depots.

The USA, China and Egypt deliver arms to them in increasing quantities. British and American professional mercenaries who committed

outrages in Vietnam and Angola have recently begun arriving in Peshawar.

The Afghan people, army and police forces capture more and more terrorists and bring them before people's courts. The public hearings reveal the unseemly role of Pakistan, the USA and China in the acts of gross interference in Afghanistan's home affairs.

The DRA leaders repeatedly proposed to the government of Pakistan to discuss the existing differences at the negotiations table, but the call of reason passed unheeded.

Trying to reassure Pakistan's neighbours State Secretary A. Haig, on the eve of his meeting with Agha-Shahi, Foreign Minister of Pakistan, stressed the point that a strong Pakistan with close ties with the USA would present no danger to other countries, but would promote security on the sub-continent.

But the rearmament of Pakistan presents a grave danger to peace and security in the region, above all to India, which was twice a victim of Pakistani aggression during the past two decades. The US master plan also provides for uniting Pakistan with reactionary Arab regimes in an aggressive military bloc. India's warning to the USA, Great Britain and the FRG about its serious concern in connection with the contemplated large-scale military supplies to Pakistan is only natural and justified. But Washington preferred to ignore the warning.

Head minister of Jammu and Kashmir States declared at the State Assembly that from 1979 to 1980 the Indian state security organs eliminated 46 Pakistani spy centres and captured a great amount of military weapons and equipment carrying the label "Made in Pakistan." Islamabad coordinates its activities with Peking. Chinese instructors train sabotage groups in the Pakistan-occupied territories of Jammu and Kashmir for subsequent infiltration and operation in India and other countries.

The Indian press and political observers say that the sabotage of Indira Gandhi's plane on the eve of her trip abroad was definitely part of the Afghan counter-revolutionary activities. According to India's "Central News Service" George Griffin, a high-ranking CIA official responsible for counter-revolutionary raids against Afghanistan, planned to visit India to coordinate the mercenaries' activities from Pakistan.

Pakistan is being increasingly criticised in the Iranian papers. And with good reason too. The anti-imperialist course of Iran's leadership and its

severe criticism of the US Administration's activities in the region are well known to the world public.

The USA may eventually use Pakistan, so closely tied to Washington's far-reaching plans of military expansion, as a means of anti-Iran subversion. There is a precedent for such a development: Egypt continuing to strengthen its military and political alliance with the USA, is displaying mounting hostility towards Iran.

NUCLEAR AMBITIONS ENCOURAGED

"PROJECT 706," the name given in the world press to Pakistan's secret plan for developing "Islam's first nuclear bomb," came to the notice of the world press. The Western papers speculate that Pakistan will shortly have accumulated sufficient enriched uranium to produce from 5 to 7 nuclear bombs a year.

Nuclear programmes are very expensive. Pakistan is known to hold twenty-fourth place among 34 world's poorest countries. Yet its rulers continue to force the people to give up their last coppers. Besides, some rich oil producing states supply financial aid to Pakistan. For instance, Saudi Arabia offered \$800 mln to complete the project.

The world press reported Pakistan's intention to test its nuclear weapon. In spite of this the Reagan Administration got the US Congress to adopt a resolution lifting restrictions on military and economic assistance to countries developing nuclear weapons.

Peking is not standing idle either. It encourages Pakistan's efforts in nuclear development and cooperates with Zia ul-Haq in this field by offering its territory for Pakistan's nuclear tests.

Pakistan's nuclear programme was a subject of discussion at the meeting between Agha-Shahi, A. Haig and C. Weinberger in Washington in

April and Zhao Ziyang in Islamabad in June. So the Western press has every reason to stress the leading role of some Western countries and Peking in the possible realisation of Pakistan's dangerous nuclear ambitions.

GROWING DISCONTENT

THE INTERNAL political situation in Pakistan has been critically tense. Many supporters of Zia ul-Haq's policy are disillusioned. After

30 years of independent development the country still presents an abysmal contrast between the wealth and prosperity of private business and appalling poverty of the popular masses. Only 32 per cent of the population of the towns have employment.

Recent developments in the country testify to the growing popular protest against Zia ul-Haq's military dictatorship. The excessive military spendings and the resulting inflation, growing prices, unemployment and poverty cause deep frustration and unrest among the population. The mass protests against the regime rally railway workers, students, teachers, newsmen, lawyers, members of disbanded opposition parties. They demand abolition of martial law, national elections, guaranteed democratic rights and liberties.

The regime retaliates with increased repressions. A state of terror reigns in the country. Demonstrations are dispersed with police clubs and tear-gas. Massive arrests overflow prisons. Many prominent leaders of democratic parties and other public organisations have been thrown to jail, among them Madame H. Bhutto, widow of the former Pakistani Premier executed by Zia ul-Haq, and also Ch. R. Aslam, Chairman of the Socialist Party, Mazhar Ali Khan, General Secretary of the Peace Council of Pakistan and Editor of the "Viewpoint" magazine and many others.

Patriotic circles in Pakistan are well aware of the danger to which the US imperialists and Peking's hegemonists expose Pakistan when they assign the country the role of "a transit base" and a servant for the US and Chinese expansionist aspirations in the Middle East.

The stability and security of Pakistan cannot be ensured by repressing the growing popular discontent, by the arms build-up and increasing tensions in relations with neighbouring states. It cannot be found on the path of international adventures endangering peace in West and South Asia. On the contrary, the only road that will promote Pakistan's development for the benefit of its people and in the interests of neighbouring nations is the road towards better mutual understanding and cooperation. These very aims have been reaffirmed by the Soviet Union in putting forward its new peaceful initiatives at the 26th Congress of the CPSU.

COPYRIGHT: "Soviet Military Review", No 8, 1981

CSO: 1812/029

PERCEPTIONS, VIEWS, COMMENTS

WESTERN TANK ARMAMENTS DISCUSSED

Moscow SOVIET MILITARY REVIEW in English No 9, Sep 81 pp 14-15

[Article: "Tank Fire Power", by Col Eng D. Ryazantsev]

[Text]

By the fire power of a tank we mean its ability to destroy different targets on the battlefield by fire. It is determined by the quantity and quality of the weapons installed on the tank and also by the efficiency with which the devices (sights) in the fire control system are used.

Foreign specialists divide tank weaponry into main and auxiliary. Some tanks may also carry additional weapons.

The main weapon (gun) is intended for destroying and neutralising targets possessing great fire power and strong armour protection. The purpose of auxiliary weapons (coaxial, bow and antiaircraft machine guns) is to destroy and neutralise close combat antitank weapons (grenade launchers, recoilless guns); they are also used against light armour, low-speed air targets and infantry.

Additional weapons help with fire missions which cannot be carried out successfully with the main weapons firing at great distances. They are primarily antitank guided missiles (ATGM).

The gun is normally located in the rotating turret, with the machine gun attached to the gun cradle. Such a combination is called a twin gun mount. The turret is rotated by

means of electric or electrohydraulic drives actuated from the control panel or manually. Laying on the target is effected by means of a sight, range finding sight or a night vision sight.

Weapon stabilisers considerably increase hit probability when firing on the move. For higher rate of fire, guns on some tanks are provided with automatic loading devices and cartridge case ejectors.

A modern tank's weaponry is therefore a sophisticated system, whose quality, along with the crew's proficiency, make up the tank's fire power.

A tank's fire power is assessed from the point of view of its ability to destroy and neutralise different targets in the shortest time and with the least expenditure of ammunition. In firing on the move, when maximum use is made of the tank's combat qualities, its fire power is also determined by such factors as hit probability, the force with which the target is hit, manoeuvrability of fire and time required to open it, and practicable rate of fire.

In recent years tanks have been provided with larger calibre guns, and higher muzzle velocity projectiles, and ammunition with great striking power is being developed. Besides, tanks are equipped with instruments and mechanisms increasing accuracy and rate of fire.

Based on foreign press reports.

Modern tanks in the capitalist armies carry as the main weapon 105- and 120-mm long barrel rifled guns.

According to foreign press reports, hard core projectiles used for 105-mm guns, when fired at a distance of 1,000 m, can pierce armour plating nearly 300 mm thick, provided they hit the target at an angle of 90°. The projectiles' high muzzle velocity of up to 1,475 m/s ensures a high hit probability and long range of fire.

Still better are the qualities of modern hollow-charge projectiles, which are capable of breaking through armour plating as thick as 3.5-4 times their calibres, irrespective of the distance to the target.

In recent years foreign designers have been paying increased attention to smoothbore tank guns with high ballistic qualities firing armour-piercing hard core, hollow-charge and other projectiles with stabiliser fins. Given the same calibre, these projectiles, as compared with rifled ammunition, have higher muzzle velocities (1,600 m/s), armour-piercing ability, point-blank range and efficiency in firing at greater distances.

Development of new smoothbore 120-mm guns is proceeding simultaneously with improvement of the ammunition used for them. In experts' opinion, however, 120 mm is the ultimate calibre for tank guns. Any further increase entails relevant changes in the tank's general layout, larger overall dimensions and smaller ammunition reserve. Therefore, foreign specialists strive to increase the efficiency of the main weapons by improving the design of the ammunition and also by raising their fire power.

Foreign experts believe that improved design and technological process will eventually make it possible to increase the armour-piercing ability of modern hollow-charge projectiles to five calibres, i.e. 120-mm tank gun shells will be

able to break through 300-mm armour steel plating at an angle of 60°. Higher power of hollow-charge projectiles may be achieved by reducing their rotation speed. Foreign specialists therefore consider the use of non-rotatable finned projectiles the best method for enhancing the cumulative effect.

Higher armour-piercing ability of hollow-charge projectiles is also promoted by use of a metal cone (tungsten, copper, carbon-free iron). To enhance the projectile's destructive power, certain designers advance the idea of using a two-layer cone for the charge chamber.

Some foreign tanks fire projectiles with plastic explosives (a mixture of hexogen and mineral oil) filled into the projectile's low-carbon steel case.

The foreign military press writes, however, that these projectiles possess low muzzle velocity, which considerably reduces the likelihood of their hitting fast moving armoured targets at effective ranges.

To fight non-armoured and lightly armoured targets, the majority of foreign tanks use common or high-explosive armour-piercing projectiles. Alongside improvement of existing shells of these types, foreign armies have adopted for service new ammunition for a 105-mm rifled and 120-mm smoothbore guns with ready-made killing elements. A 105-mm shell contains 5,000 finned steel arrows, weighing 0.84 g each. This is virtually a return to shrapnel, the only difference consisting in a new design layout.

Projectiles of this type are an efficient means for neutralising ATGM fire positions. The manpower killing zone of such a shell greatly surpasses that of a common projectile.

The foreign press reports that the development of combustible cartridge cases is a new trend in ammunition production, for their use keeps the gases out of the fighting compartment, thereby raising the crew's capacity for work. Foreign

military specialists hold that complex weapons and ammunition with different target hit probability will enable the crew to use the tank's fire power more rationally for destruction of both manpower and armoured vehicles.

They also believe that higher fire power can be achieved not only by improving the tank's weapons and ammunition, but also by providing them with a more efficient fire control system, since prompt and accurate assessment of the gun's elevation and lead angles allows an increase of efficient range of fire and a reduction of the time required to fire the first salvo.

The fire control system of modern foreign tanks generally includes such basic elements as a system of armament stabilisation, laser or optical range finders ensuring high precision in determining the range of fire, a ballistic computer with a set of transmitters of fire conditions designed for automatic calculation of the gun's elevation and azimuth lead angles, and also for shaping commands and correcting guidance and sighting devices.

Accuracy in firing on the move entails broader use of armament stabilisers. A high effect is produced by stabilising the armament in two planes. The highest result is, however, attained by using (besides stabilising the main weapons and the optical system of the gunlayer's sight) independent stabilisation of the field of view of the tank commander's sight, for it offers the opportunity not only to give target indication but also to take over control of the main weapons.

To increase manoeuvrability of fire, tanks are provided with actuators for the purpose of ensuring maximum guidance speed and quick transfer of fire from one target to another. On the other hand, accurate laying of the gun on the target also depends on minimal stable guidance speeds, ranging in foreign tanks from 0.05 to 0.1 deg/s.

Not infrequently battle situations call for quick transfer of fire from one target to another, the rate of the tank gun's fire considerably exceeding the speed of traversing. That is why foreign specialists strive to bring the turret's rotational speed to 30 deg/s and even more.

Much attention is also given to improving night vision devices, including passive infrared ones. Research is simultaneously going on to evolve modern sights and battlefield observation devices, preference being given to TV night vision devices.

Articles published in foreign military periodicals voice doubts concerning a further increase of cannon weapons' fire power. Mention has already been made of the limited possibilities of increasing the gun's calibre. The relatively small fighting compartment interferes with automation of loading. In recent years, therefore, many foreign experts have been increasingly entertaining the idea of the necessity to provide tanks with rocket weapons, namely ATGMs, which are superior to contemporary tank ammunition as regards hit probability at great distances (over 2,000-2,500 m). Besides, the movement of the target practically does not affect hit efficiency.

Foreign experts believe, however, that use of ATGMs on tanks is rendered difficult by a number of shortcomings, the main one being low rate of fire and limited use only as an antitank weapon. ATGMs are not very efficient in firing at inconspicuous targets, on cross-country terrain and in poor visibility. Disruption of the missile's control and its loss on the trajectory are not excluded either. And, finally, the price of ATGMs is rather prohibitive for the time being.

The striving to use the positive qualities of rocket and gun weapons

has led to the creation of tanks with combined rocket-and-gun armament, which is installed on some American tanks. But, according to foreign military specialists, the launcher has failed to yield sufficient power. In spite of the large calibre (152 mm) common projectiles to this weapon are considerably inferior to similar 105- and 120-mm tank guns in respect of range of fire and action on the target.

It can be said in conclusion that the majority of specialists are of the opinion that gun and machine-gun armament will remain the principal means of ensuring tank fire power for a long time to come.

COPYRIGHT: "Soviet Military Review", No 9, 1981

SO: 1812/26

VIEWS ON SOVIET, WESTERN POLICIES IN AFRICA

Moscow SOVIET MILITARY REVIEW in English No 9, Sep 81 pp 42-45

[Article: "Soviet Peace Policy and Africa", by A. Gromyko, director of the Institute of Africa of the USSR Academy of Sciences, D. Sc. (History)]

[Text]

The world is experiencing at present an epoch of revolutionary renovation opened by the Great October. Africa actively joined in this process in the 1950-70s. Having cast off the fetters of colonialism, the African countries entered the world arena as subjects of international politics. In this period the African nations that had freed themselves from colonial bondage began to establish official diplomatic relations with the USSR.

It is noteworthy that in February 1981, when the 26th CPSU Congress began its work, it was 20 years since L. I. Brezhnev's visit of friendship to the African countries, Ghana, Guinea and Morocco. This visit demonstrated the USSR's peace-loving foreign policy in Africa, its intentions to build relations with the young African states on a radically new basis compared to that of imperialist powers.

The past years have been years of fruitful development of Soviet-African relations, of steady growth of the USSR's prestige on the African continent. What factors contribute to this?

The principal and decisive factor is the Leninist policy of peace, resolute counteraction to imperialist aggressions and internationalist support of the African peoples in their liberation struggle.

In the first document of Soviet power — Lenin's famous Decree on Peace adopted by the Second All-Russia Congress of Soviets on October 26 (November 8), 1917 the socialist state came out against aggressive imperialist wars, against annexations and seizure of foreign lands, denounced "every incorporation of a small or weak nation into a large or powerful state."

Following the principles of combining the peace policy with support of the national-liberation movement, the Soviet Union came out on the side of the Riffs in northern Africa, who rose in the 1920s in heroic struggle against the Spanish and French colonisers. In the 1930s the Soviet Union was the only great power which supported the Ethiopian people in their just struggle against the aggression of Italian fascism.

The rout of nazi Germany and militarist Japan, in which the Soviet Union played the decisive role, was an invaluable contribution from the historical viewpoint to the cause of world peace. The victory of the Soviet people in the Great Patriotic War, in which it sustained the heaviest losses, created at the same time favourable conditions for success in the national-liberation struggle, including that in Africa.

As the most powerful state of the socialist community the Soviet Union bears the main responsibility for guarding the peace and security of peoples against encroachments of aggressive imperialist circles. Due primarily to the build-up of the USSR defence capacity our planet has not known the disasters of a world war for already 35 years, and precisely in this period we witnessed the collapse of the colonial system in Asia and Africa. The former outlying areas of the capitalist system become the scene of progressive social transformations. The contribution of young states, African in particular, to the cause of world peace is constantly growing.

The Peace Programme proclaimed by the 24th and 25th CPSU congresses was of prime importance to Africa. All the provisions of this Programme — from the task to stop the arms race to

the renouncement of the use of force or the threat of force in solving disputed questions meet the vital interests of the whole of mankind, including the African peoples. A number of burning international problems also bear a direct relation to Africa. Among them are the complete elimination of all the vestiges of the system of colonial oppression, all the seats of colonialism and racism, and also any manifestations of inequality, diktat and exploitation in the sphere of world economic relations.

The Soviet Union's struggle for implementation of the Peace Programme has already borne tangible fruits, its main outcome being normalisation of the international situation in the 1970s. The outstanding achievements of the national-liberation movement on the African continent in this period were beyond question closely related to the atmosphere of détente then reigning in international relations. It was precisely in the conditions of détente that the last colonial empire — the Portuguese — ceased to exist, the peoples of Angola, Mozambique, Guinea-Bissau and Zimbabwe won independence and the struggle for liquidation of the last seat of racism and colonialism in the south of Africa gained strength. On the agenda at present is the question of emancipating Namibia from the colonial-racist yoke. The largest event of the seventies on the African continent was the victory of the people's national democratic revolution in Ethiopia. These years witnessed an increase in the number of socialist-oriented countries which are carrying out deep socio-economic transformations and heading the struggle of African peoples for peace and social progress.

In general these countries support the Leninist peace policy which manifests itself, in particular, in their backing of Soviet peaceful initiatives at the United Nations. Jointly with the socialist states, the African countries contributed to the adoption by the UN of a whole series of important decisions aimed at strengthening international peace and security, restraining and preventing aggression, curbing the arms race, promoting disarmament and opposing colonialism and racism.

The Soviet Union, in its turn, actively supports at the United Nations all the constructive steps of African states directed towards combating colonialism, racism and neo-colonialism, strengthening security and stability in different parts of the African continent and Africa as a whole. Among

them are the proposal to declare Africa a nuclear-free zone and the idea, put forward by Asian and a number of African states, to convert the Indian Ocean into a peace zone by liquidating all foreign military bases in the area.

Cooperation of the Soviet Union with African nations on the problems of preserving and strengthening universal peace is a new positive factor in international relations arising from the common vital interests of the Soviet Union and African progressive forces.

Only in conditions of peace will the newly-free African countries be able to develop their productive forces severely undermined by colonialism and raise the living standard of the African peoples. Only stable and just peace will ensure for them the right to choose their own way of development and establish a socio-political system corresponding to their wishes.

But imperialism does not want to yield its positions without struggle. It strives to strengthen and expand its presence on the continent by establishing bridgeheads for intensifying its interference in the internal affairs of independent countries. Imperialism tries to revive old and set up new military alliances incorporating the countries of Asia, Africa and Latin America, assigning in this a special role to expansion of NATO activities. Projects of "atlantisation" of the Pacific and Indian oceans, and even of admittance of Israel to NATO are put forward. At the same time imperialism does not cease its attempts to transform the developing countries' economic and political organisations into military alliances. On the agenda is also the question of organising the METO (Middle East Treaty Organisation) bloc under US aegis, the basis of which could be a Cairo-Tel Aviv axis with direct participation of the USA. The METO zone could include central, northern and eastern Africa, the Arab world and Central Asia.

Pursuing its own strategic objectives, imperialism assigns a not unimportant role to direct military interference in the internal affairs of young states. The American "rapid deployment forces" designed to protect the "vital interests" of the United States total some 300,000 soldiers and Marines. They have their own bases in Egypt, Oman, Kenya and Somali, and not only possess the most up-to-date military equipment, but, as some Pentagon officials state, may use tactical nuclear weapons in case of emergency. And it is not hard to understand that even "limited" employment of nuclear weapons can lead to a world nuclear war.

The south of Africa remains one of the most dangerous centres of international tension. The racist regime is developing its military potential at an ever increasing pace. With the connivance of imperialist powers, the USA in the first place, the Republic of South Africa multiplies its criminal actions not only against tributary states but also against independent African nations.

Jose Eduardo dos Santos, Chairman of MPLA-Party of Labour, President of the People's Republic of Angola said at the 26th CPSU Congress that armed aggression and terrorism inspired by racist South Africa, Israel, CIA and imperialist circles will meet a resolute rebuff on the part of

all peace-loving forces which rely upon the consistent support of the Soviet Communists.

The USSR and the other socialist states have been rendering and continue to render tangible moral and material aid to all the detachments of the national-liberation movement fighting against racist-colonialist oppression and also to the countries defending themselves against aggression. This policy is based on Lenin's teaching on just and unjust wars. The struggle of enslaved peoples for their liberation, as well as armed rebuff to aggressors, is always just. Recent years gave us several striking examples of this. Take, for example, the events in the Middle East (1967 and 1973), Angola (1976), Ethiopia (1977) during which the fraternal aid of the Soviet Union, Cuba and other states of the socialist community helped frustrate the aggressors' plans.

The opponents of peace have always been scared of the truth. What false accusations have been brought by imperialists, Chinese hegemonists and opportunists of all kinds against the Soviet peaceful policy in Africa? They continue their hullabaloo about a "Soviet military threat," "Soviet-Cuban interference," "export of revolution," etc.

Time is a strict teacher. It passes sentence without right of appeal. Years and decades have passed since Africa established relations with the USSR, but in none of these African countries will you find "hegemonist control" or see "Soviet monopolies" plundering the continent's wealth. International solidarity and support by the Soviet Union of the just liberation struggle of the African peoples have nothing to do with interference in the internal affairs of other states so characteristic of imperialist policy. Just the opposite: the Soviet peace policy is aimed at ending this interference, at establishing a new system of international relations based on the principles of equality and res-

pect for the sovereignty of all countries, both small and great.

Characterising African countries' cooperation with the Soviet Union, President Kaunda of Zambia said: "The Soviet Union played and continues to play its historic role of a reliable supporter of liberation movements. When we, the leaders of the movement for the liberation of Zimbabwe, became disappointed in the double-dealing policy of the West, we applied to our traditional allies in the struggle for freedom — the Soviet Union and the other socialist states... We believe in the principles of respect for national sovereignty and independence, freedom and justice. We believe in the principles of non-interference in the internal affairs of other independent nations. We strictly adhere to the principles of non-alignment as an instrument of peace and cooperation.

Basing ourselves on these principles we shall continue cooperation with the Soviet Union and any other people in the world."

The high estimate of the strengthening friendly relations between the African countries and the USSR given by the leaders of these countries is the best answer to the Western and Chinese critics, or rather to the distorters of the Soviet peace policy.

The Soviet Union never supported and will never support adventuristic actions on the African continent. The new type of international relations is compatible with neither the reactionary nationalism nor its extremes — chauvinism and aggression. The USSR consistently and actively supports the unity of African states on an anti-imperialistic and democratic basis. The Organisation of African Unity set up in 1963 plays an important role in contemporary international relations. Since the very inception of this organisation the Soviet Union actively has backed it and supported its decisions and actions aimed at eliminating colonialism and racism in the south of Africa and at ensuring peace and security on the African continent as a whole.

In connection with the activation of imperialist aggressive policy in Africa the Soviet Government made a statement in June 1978 on USSR policy towards the African states. The statement says that the interests of peace and development of Africa require immediate termination of imperialist interference in the internal affairs of the African states, respect for their right to a free and independent existence, to equal relations with all states in compliance with the purposes and principles of the UN Charter. The Soviet Union, on its

side, will do everything necessary for the developments in Africa to proceed along these lines.

In the 1970s the Soviet Union's relations with the African states steadily improved. In the second half of this decade they were marked by the signing of friendship and cooperation agreements between the USSR and a number of socialist-oriented African countries — the People's Republic of Angola (1976), the People's Republic of Mozambique (1977), and socialist Ethiopia (1978). The distinguishing feature of these agreements is that they not only provide for friendly relations between the sides, but express the resoluteness of the USSR to cooperate with Angola, Mozambique and Ethiopia in defending and deepening their revolutionary achievements.

These agreements between the African socialist-oriented countries and the USSR embody the principle of proletarian internationalism — the cornerstone of the Soviet peace policy.

The ways and means of Soviet support for the progress of the African socialist-oriented countries and their struggle aimed at defending the cause of revolution against the imperialist export of counter-revolution fully measure up to the UN Charter and contemporary international law.

One of the most important lines in the Leninist peace policy is the Soviet Union's struggle for reconstruction of international economic relations on a democratic basis.

The Soviet Union actively supports the just demands of the African countries for radical changes in their unequal discriminatory relations with the imperialist powers. Evidence of this are the proposals for restructuring international relations put forward by the Soviet Union at the 31st Session of the UN General Assembly in 1976.

The Soviet Union supported African and other developing countries at the 11th Special Session of the UN General Assembly on economic problems held in August-September 1980. Displaying understanding of the specific needs and problems of the developing countries, the USSR supported the right of these countries to obtain foreign funds for financing their development. Our country holds that these claims must be put forward by the developing countries in the context of compensation of damages caused to their economies by colonial exploitation by the former metropolises and also compensation for losses they suffer at present due to the activity of transnational corporations.

The Soviet Union does not only advocate equal international economic relations and overcoming the African nations' backwardness at UN sessions and other international conferences. The USSR gives the example of equal trade and economic relations in actual fact, in international practice. Just such relations exist and are developing between the USSR and the African states.

With the assistance of the Soviet Union the African countries have built and are now building hundreds of extractive, metallurgy, power, machine-building and light industry enterprises, which become the property of these countries, a part of their national economy. More than 80 per cent of means provided by the Soviet-African agreements on economic and technical cooperation are directed towards developing production branches, 70 per cent of them being spent for the development of industry and power engineering. Soviet aid contributes to industrialization of African states and to the progress of their economy. The technical assistance of the USSR helped, for instance, to build a steel-making plant at the metallurgy complex in El-Hadjar (Algeria) producing 410,000 tons of steel a year. This plant made it possible to increase the annual production of steel in the country 14 times and now completely satisfies the Algeria's needs of rolled steel. In accordance with the agreements signed with the Soviet Union in the second half of the seventies the independent African countries have increased and continue to increase the annual production capacity of their power stations by 2.9 million kW, of their metal-making industry by 2.75 million tons of pig iron and 4.4 million tons of steel, annual iron ore extraction by 3.5 million tons and the output of oil products by 2.65 million tons. The Assaba oil refinery (Ethiopia) built with the help of the Soviet Union completely satisfies this country's requirements of gasoline and other oil products.

The Soviet Union also considerably helps African countries train their national personnel. Students from more than 40 African states study in the USSR. Tens of thousands of Soviet specialists help these countries to create a national industry and public health services, to reconstruct their agricultural system.

It is a well-known fact that, relying on equal cooperation with the Soviet Union, the African countries have a possibility to exert pressure on imperialist companies and sometimes even force them to make concessions.

The equitable cooperation of the Soviet Union with the African countries, being an integral part of the Soviet policy of peace, contributes to strengthening friendship and cooperation among the peoples. It has become an effective factor of peace on the African continent.

• • •

Each CPSU congress invariably checks its course against the Leninist compass. Preservation and strengthening of peace in the world has always been, is and will be the primary goal of Soviet foreign policy. From the rostrum of the 26th Congress of the CPSU L. I. Brezhnev stated: "To safeguard peace — no task is more important now on the international plane for our Party, for our people, and, for that matter, for all the peoples of the world... Not war preparations that doom the peoples to a senseless squandering of their material and spiritual wealth, but consolidation of peace — that is the clue to the future."

The Soviet people march under the banner of intensified struggle for peace and against military danger, and among its allies in this sacred fighting is independent Africa.

COPYRIGHT: "Soviet Military Review", No 9, 1981

CSO: 1812/26

PERCEPTIONS, VIEWS, COMMENTS

VIEWS WESTERN 'MILITARY THEORY', STRATEGY

Moscow SOVIET MILITARY REVIEW in English No 9, Sep 81 pp 46-48

[Article: "Arena of Bitter Ideological Struggle", by Maj Gen A. Skrylnik, Cand. Sc. (Philosophy)]

[Text]

Problems of military theory occupy an important place in the ideological struggle between the two social systems — capitalist and socialist. They include first of all such important questions as understanding of the essence of modern wars, their social nature, causes and possible consequences, elucidation of the nature of the army and its role in social development and others which are an object of conflict between the two standpoints differing by their class essence, on war and the army and the two different approaches to military problems — Marxist-Leninist and bourgeois.

Witnessing the Soviet Union's consistent and tenacious work for peace while imperialism intensifies preparations for a new war, millions of people all over the world turn to Marxism-Leninism to find the answer to questions interesting them. They find in Marxism-Leninism not only the theory of social and national liberation but also a precise programme of how to free mankind from unjust, predatory wars, an exhaustive characterisation of the wars waged in the present epoch, their causes and possible consequences.

Reflecting and explaining the real phenomena in the military-political field of social life, the Marxist-Leninist doctrine on war and the army delivers a powerful blow at the various concoctions of bourgeois sociologists who try to conceal from the peoples the true causes of the existing military menace and to accustom them to the idea of inevitability of war and of the "acceptability" of a nuclear-missile war, etc.

Striving to camouflage the class nature of the imperialistic aggressive policy and the real causes of wars, the ideologists of the imperialist military clique, disregarding the facts and the very logic of events, attack the Marxist-Leninist understanding of the essence and social character of contemporary wars. Referring to qualitative changes that have taken place in the military field due to progress in science and technology, they assert that under these conditions war has ceased to be the continuation of policy.

Bourgeois ideologists try in different ways to falsify the essence of a nuclear-missile war, to distort the meaning of the concrete policy, to absolutise armed violence, etc. These assertions of reactionary sociologists do not only illustrate their ideological and theoretical narrow-mindedness, they result above all from their desire to justify the aggressive policy of the imperialist forces, to camouflage its true aims and to present war as an inevitable and eternal evil constantly hanging over mankind.

The very basis of these ideological attempts to perpetuate war are antihuman. War is always aimed at accomplishing specific political and, in the final analysis, economic ends. V. I. Lenin wrote: "War is the continuation of policy."

No less bitter a struggle between the opposing standpoints — Marxist-Leninist and bourgeois — is waged nowadays in connection with the causes of modern wars, their social nature and possible consequences.

In the context of the rapid development of science and technology views tending to prove that the danger of war lies precisely in modern technology and science have become widespread in capitalist society. Some Western ideologists consider nuclear weapons, others the technological revolution as the cause of the military threat. The adherents of these views stress that thermo-nuclear weapons, automatic control systems, etc. have metamorphosed the military into a certain "daemonic" force which has got out of man's control. Some scholars even present a future war as an engagement between robots.

There is no need to prove how absurd is the ideas that the source of a military threat lies in modern science and technology. The purpose of the "theory" is to conceal the obvious fact that it is the capitalist system which has militarised the development of science and technology and constitutes the original cause of the unbridled arms race.

Bourgeois military ideologists also intensively develop so-called ethical war "theories" which consider war as a means of morally purifying society of stagnation, and which deny the social nature of wars and their division into just and unjust. By this they attempt to ignore the negative class-political and moral-legal nature of unjust wars, to camouflage their reactionary socio-political role, to rehabilitate counter-revolutionary violence in the masses' opinion and to equate criminal aggression to legitimate defence.

Bourgeois ideologists' anti-scientific concepts on the causes of wars cannot stand comparison with the strictly scientific views of Communists asserting that imperialism is the only source of war. And a new world war, should one be unleashed by imperialism, will be nothing but the continuation of its aggressive policy.

In the conditions of the ever wider spreading of Marxist-Leninist ideas in the world it becomes more and more difficult for the militarists to propagate their views. Trying to make the very thought of the possibility of war in present-day conditions at least acceptable to the peoples, if not attractive, they cultivate different types of falsehoods about the "very last war" which will result in the destruction, according to the viewpoints of some anti-Communists, of the population of socialist states only. Very indicative in this context is the US "new nuclear strategy" declared by Directive No. 59, which is simply a modification of the previously known concept of "target

selection" or a broadened version of the "limited" war strategy.

But no matter how carefully bourgeois propaganda strives to conceal its true aims using such terminology and recommendations, it is clear to all sober-minded men that they mean only one thing — war.

Left opportunists, Maoists above all, also make their contribution to the rehabilitation of wars, including nuclear wars, and to the justification of those responsible for the existing military danger. They carry to the absolute the idea of military solution of all social and national problems. Such are, for instance, the Maoists theses that war is "almighty" and that "only war can eliminate war." Using ultrarevolutionary phrases as a smokescreen they try to lay a "theoretical" foundation under the adventurist and antisocialist policy of the Chinese leaders.

To the bourgeois conceptions of the sources and causes of wars Marxism-Leninism counterposes scientifically-grounded views. Neither modern science and technology nor man's psychology give rise to devastating wars as the reactionary ideologists assert. The original cause of the arms race, militarism and military adventures is the exploiter's mode of production, the economical and political system based on private property.

It was the division of human society into antagonistic classes that led to the appearance of exploiters and to a great number of small and big wars. And today, as at the time of its inception, imperialism presents a threat to the security of the peoples and the cause of peace. The milita-

rist circles of the USA and other NATO countries are building up their military arsenals and fanning hotspots of military confrontation in different parts of the world. The imperialist propaganda machine is launching unbridled anti-Soviet and anti-socialist campaigns.

The whole "system of proofs" of the Western military ideologists is based on the myth of a "communist threat." By means of its huge propaganda machine imperialist reaction tries to keep the peoples of the capitalist countries in a state of constant fear of communism. G. Kahn, an American futurologist, bluntly writes that militarisation of Western states is determined by the existence of communism.

The bourgeois propaganda machine systematically publishes "new" data on the "growth" of the Soviet Union's military potential in order to scare the average man and to instil in him a fear of the mythical "Soviet military threat."

Bourgeois ideologists interpret the build-up of the Soviet Union's defence capacity and improvement of its Armed Forces as a manifestation of "red militarism." To justify Washington's expansion in the Middle East the militarists vociferously cry out about a "war waged by the Russians against the Afghan people," about a "Soviet military threat to Pakistan and Iran," and so on.

In their "theoretical" substantiations of the "Soviet military threat" myth, bourgeois propagandists distort Lenin's conception of the army and the socio-class nature of the military organisation. They not infrequently use overstated figures on the number of Soviet tanks, aircraft and warships and keep silent about the historical predestination of the Soviet Armed Forces, their mission of safeguarding the Socialist Motherland, the cause of peace and security of peoples.

In reality the military threat lies not in the weapons as such. The basic question which makes it possible to judge the true purpose of armed forces is who controls them, what classes they serve and whose interests they fight for. In this context it is worth mentioning the words of James Aldridge, a well-known British writer, in connection with the first hydrogen bomb tests in the Soviet Union: "It would be silly to consider that such a terrible weapon in the hands of imperialists, provided only they possess it, would not have presented a danger to mankind. We were glad to know that the Soviet Union has exploded an H-bomb not because we like it but because we know that the Soviet nuclear weapon is a guarantee of peace."

The Soviet Union never waged aggressive wars. It never armed itself for the sake of arming and now spends for the development of its army

COPYRIGHT: "Soviet Military Review", No 9, 1981

CSO: 1812/26

PERCEPTIONS, VIEWS, COMMENTS

VIEWS OF MEDITERRANEAN BASIN SECURITY

Moscow SOVIET MILITARY REVIEW in English No 9, Sep 81 pp 48-50

[Article: "Peace and Security for the Mediterranean", by V. Yefremov]

[Text]

The imperialists' crusade against détente has not bypassed the Mediterranean. As always this was noted with convincing evidence and from a constructive position by L. I. Brezhnev, General Secretary of the CPSU Central Committee, Chairman of the Presidium of the USSR Supreme Soviet, in his speech at a dinner in the Grand Kremlin Palace for Chadli Bendjedid, General Secretary of the National Liberation Front, President of the Algerian People's Democratic Republic.

This anxiety is shared not only by the Algerians and the Soviet people but also by the peoples of many countries washed by the Mediterranean Sea. And it washes the shores of over 20 sovereign countries of Europe, Asia and Africa. But, unfortunately it has always been and is still a zone of conflicts, and of a stockpiling of arms frequently used against the people.

For a long time, since WWII the USA has considered this "Beautiful Helen of the Oceans" as an elder sister of the American Lake Erie. Translated from poetical into political language this means that Washington, using military force in this area, tries to secure for itself control over the Middle East oil deposits and the approaches to the natural resources of the countries of the Persian Gulf and the Indian Ocean. By means of the same force Washington tries to prevent the development of the liberation, anti-imperialist processes in the Mediterranean countries.

The US military presence there since the time of the Second World War consists primarily in the Sixth Fleet—some 50 warships of diverse types, including aircraft carriers. A landing force including Marine units is also permanently stationed there. Besides, American nuclear-powered submarines ply the waters of the Mediterranean and the Atlantic Ocean near the shores of Europe and Africa. Naples and Maddalena (Italy), Suda (Greece) and others serve as main bases for the US 6th Fleet.

Washington is now taking urgent steps "to strengthen NATO's southern flank," where, according to "Newsweek," the conflict between Greece and Turkey has created a "gaping breach." The USA and other NATO countries have managed to persuade Greece to return to this bloc. Greece had withdrawn from NATO's military organisation in 1974. The United States retained the right to go on using the Greek military bases. In exchange for this Athens was promised, "in accordance with the aims of the North Atlantic Alliance," military aid to the tune of 700 million dollars. As a result, as a spokesman for the main opposition Panhellenic Socialist Movement (Pasok) stated in parliament at the time, the Pentagon got for its own use some 40 military bases and installations on Greek soil. These include electronic reconnaissance and guidance stations, missile bases in Central Macedonia, bases for U-2 spy planes, nine naval bases, military aerodromes and nuclear submarine depots.

Today the Pentagon attaches much importance to restoring its military relations with Ankara to their former level. It did all it could for Congress to repeal its decision imposing an embargo on American arms supplies to Turkey. The question here is not only Turkey's proximity to the Soviet Union, which was always a major consideration for the United States and NATO, but also Turkey's role of northern watchdog of the Middle East and Africa. After the US Congress lifted the embargo in the summer of 1978 the Turkish government announced the reopening on the basis of a temporary status of some of the American bases on its territory.

The United States exhibits a special interest in the military bases in Turkey, especially since Iran categorically demanded the liquidation of the American reconnaissance and other military installations on its territory. In January last year a high-ranking US military and diplomatic delegation visited Ankara. The Washington emissaries wanted to persuade the Turkish government to allow the Pentagon to use

military bases on Turkish territory for electronic espionage against the Soviet Union. In payment for this they offered Turkey, in 1980 alone, a 450 million dollar military-economic aid programme. And the final results of all these efforts should be, "The New York Times" feels, the build-up of a military potential and elaboration of new measures to ensure security envisaging, perhaps, the formation of a pro-Western alliance of Egypt, Israel, Turkey and Saudi Arabia. The scheme in itself is typical. It shows that Washington's strategic concept is continuing to revolve in a steady circle of appeal to force. Commenting on the NATO meeting in Ankara, the Lebanese "As-Safir" pointed out with alarm that the decision providing for the possible use of bases on Turkish territory for "the settlement of crises not affecting the NATO bloc" (read: in the interests of NATO) presents a direct threat to Lebanon, Syria, Iran and other countries of the Near and Middle East.

Israel and Egypt are the United States' most reliable partners in the Eastern Mediterranean. Tel Aviv, for instance, has long been offering its services to NATO. As far back as 1971 the then Defence Minister Moshe Dayan offered NATO the use of airfields on the Sinai Peninsula. Today such an agreement has been concluded and the Sadat regime of Egypt has acceded to it.

After the Camp David agreements Israeli Prime Minister M. Begin suggested that Washington set up a naval base in Haifa and an air base in Ezion. Naturally the Pentagon is making the most of Israeli and Egyptian benevolence. The military bases it has secured for itself in these countries

must, according to "The New York Times," become transshipping points for the "rapid deployment force" and also be used by the air and naval forces stationed in the region. As the "Washington Post" wrote, the US Joint Chiefs of Staff have already completed plans for a new Middle East Command. It is considered that the Israeli port of Haifa would probably be the seat of this command.

Simultaneously the Pentagon strives to strengthen its positions in the Western Mediterranean. Pressure is being stepped up on Spain by the USA and other NATO countries to rope it into the bloc. This military design is supplemented by the Pentagon's plan to deploy the new "Pershing 2" medium-range missiles and the "Tomahawk" cruise missiles in Italy.

In its Mediterranean gambles Washington ignores the interests and aspirations of the peoples of the region. "As many years ago, the ships of the US Sixth Fleet in the Mediterranean are an active means of exerting pressure on the peoples of Africa," said Muammar Al Kaddafi, leader of the Libyan revolution. "This fleet is a link in the chain of conspiracies against the Arab countries, Mozambique, Angola, Ethiopia, and other independent regimes. It supports the reactionary forces, including Israel and the racist minority governments."

Washington ignores the interests not only of the Arab and African peoples but also the national interests of the

NATO countries. For example, the Greek government, while extending its military cooperation with the USA, does so with particular misgivings because it considers the American military cooperation with Turkey contrary to its national interests. Flirting with Turkey and Greece, Washington is striving to settle their conflicts within the NATO framework advancing other separate plans for resolving the Cyprus question. But the people of Cyprus reject such a solution, for they propose to convene an international conference on Cyprus with participation of the UNO as was suggested at one time by the Soviet Union.

To turn the Mediterranean Sea into a peace zone is a long-standing dream of the countries in this area. This question is periodically raised at representative international forums. The agenda of the Athens' Conference in 1978, in which almost 400 delegates representing the Mediterranean and other countries took part, was "For Peace, Security and Cooperation in the Mediterranean." The international conference against military pacts and bases, for world security and cooperation, which took place in July 1979 in Nicosia, capital of the Republic of Cyprus, demanded measures to prevent a growth of tensions in the Mediterranean. In late June 1980 an international conference on liquidating foreign military bases in the Mediterranean Sea was held in Herakleion, the administrative centre of the Greek island of Crete. Representatives of Greece, Cyprus, Turkey, Italy, the Soviet Union, Bulgaria, the World Peace Council and many other international democratic organisations called for a uniting of efforts by the peoples in defence of peace and détente. The Conference adopted a joint action programme by the peoples of the Mediterranean area for the complete and final dismantling of the American and NATO bases on the territories of other countries.

Unlike the USA situated 10,000 miles away from the Mediterranean, the Soviet Union, being a Black Sea power, is also a Mediterranean power. The situation in this basin, the more so the military situation, is its deepest concern for military preparations of the USA and other NATO countries are going on in the immediate vicinity of the USSR borders. For this reason it is resolutely opposed to Washington regarding the Mediterranean as an American lake.

The Soviet Union urges in the first place strict observance of the provisions of the Final Act of the Conference on Security and Cooperation in Europe held in Helsinki in 1975. This document reads that "the process of improving security should not be confined to Europe but should extend to other parts of the world, and in particular to the Mediterranean area." Well known is the Soviet proposal for the withdrawal from the Mediterranean of all nuclear-armed ships and the transformation of the region into a zone of peace, good-neighbourship and cooperation. In May last year the Warsaw Treaty countries urged the NATO countries "to start examining, for example, within the UN framework, the question of limiting and scaling down the level of military presence and military activity in the areas concerned, whether in the Atlantic, Indian or Pacific Ocean,

the Mediterranean Sea, or the Persian Gulf."

The Soviet Union believes that the Mediterranean can and should be transformed from an area of military-political confrontations into a zone of lasting peace and cooperation, said the head of the Soviet state during the talks with Chadli Bendjedid, President of the Algerian People's Democratic Republic. This object could be served by international agreements on the following questions:

- extension to the Mediterranean of the confidence-building measures in the military sphere that have already proved their value in international practice;

(As is known, at the 26th CPSU Congress L. I. Brezhnev said: "We are prepared to apply them (these confidence-building measures—Ed.) to the entire European part of the USSR, provided the Western states, too, extend the confidence zone accordingly." Advancing this proposal the Soviet Union proceeds from the fact that its implementation will assist the progress of détente in Europe. The spreading of the confidence-building measures to the area of the Mediterranean will also promote the solution of this problem.)

- agreed reduction of armed forces in this area;

- withdrawal from the Mediterranean of naval ships armed with nuclear weapons;

- no deployment of nuclear weapons on the territory of non-nuclear Mediterranean countries;

- the undertaking by the nuclear powers of commitments not to use nuclear weapons against any Mediterranean country that does not allow these weapons to be deployed on its territory.

As we see, all the proposals of the USSR concerning the Mediterranean area are a logical continuation of the former Soviet peaceful initiatives and at the same time represent a concentrated programme of peace and security in the Mediterranean.

Needless to say, the Soviet Union is ready to examine jointly with all interested states other initiatives and ideas aimed at turning the Mediterranean into a zone of lasting peace and cooperation.

The new proposals of the USSR concerning the Mediterranean Sea met with warm approval and support from the countries of this region and the world over. "Message of Peace" is what the Greek newspaper "Rizospastis" called the editorial article which underlines the enormous significance of the proposals made by L. I. Brezhnev on the Mediterranean basin. "Turning the Mediterranean into a demilitarised, non-nuclear zone, as the Soviet leader L. I. Brezhnev proposes," wrote the Greek newspaper "Havragi," "would save the peoples of the region from a constant threat of war." The Indian PTI agency underscored that L. I. Brezhnev's proposals bear witness to the consistent

peace-loving policy of the Soviet people, advocating the settlement of acute international problems by constructive negotiations. Even the Japanese Kyodo Tsushin agency admitted that "the Soviet leader advanced a concrete plan of turning the Mediterranean from the area of the military-political confrontations to the zone of stable peace and cooperation."

It is significant, however, that the official press in the USA and other NATO countries tried to pass over in silence or to distort the meaning of the new Soviet initiatives concerning the Mediterranean Sea. And the American emissaries continue to exert pressure on the Mediterranean countries with the purpose of forcing them to take part in Washington's military preparations in the Middle East. Washington and its allies continue to increase their military presence and activity in the Mediterranean Sea. Here too they act in the spirit of the policy "from positions of strength," which has brought them no few military and political failures. The Mediterranean gamble cannot bring the United States the profit it hopes for, because it runs counter to the vital interests of the peoples of the three nearest continents.

PERCEPTIONS, VIEWS, COMMENTS

DEVELOPMENTS IN U.S., NATO ARTILLERY DISCUSSED

Moscow SOVIET MILITARY REVIEW in English No 10, Oct 81 pp 34-35

[Article by Col N. Kharitonov, Cand. Sc. (Military): "Trends in Artillery Development"]

[Text]

High tactical, technical and constructive demands are made on a contemporary gun (mortar, launcher). They determine the calibre and type of the system, the muzzle velocity of the shell, the range of fire, weight and overall dimensions of gun and shell, the rate of fire, the number of men in the crew, the characteristics of the running gear (undercarriage), the time for changing over from travelling to firing position.

In any case artillery equipment must be highly reliable, operate without fail in any combat situation, be easy to maintain by the crew and be in high combat readiness for a long time.

The combat and operating characteristics of the modern artillery are considerably higher than those of the artillery of the Second World War. Examples are provided by modern self-propelled guns and rocket launchers.

The scientific and technological revolution considerably influences the qualitative development of artillery. First of all use is made of the latest achievements in the production of the highly strong lightened alloys and materials. New high-power types of gunpowder have made it possible to give shells a higher muzzle velocity. The development and use of new explosives have contributed to the creation of increasingly powerful ammunition.

The further improvement of artillery systems is being carried out along several lines. The most important one is the use of new constructive schemes for developing guns. In developing field artillery important significance attaches to the creation of systems with all-round fire, lowering their weight, broadening the range of combat missions it can fulfil.

Based on foreign press materials.

Modern tank fighting requires a sharp increase of the point-blank range (up to 2,000 m) and armour-piercing ability of antitank guns. One way of solving this problem consists in using smoothbore guns. The stability of the shell in flight is secured by using a stabiliser. When firing such a gun the shell is imparted a great velocity (1,500 metres per second and more), and consequently its point-blank range increases too. The effect of hollow-charge projectiles is also considerably intensified.

During the 1950's models of so-called auxiliary propelled guns were designed. They were destined for close escort and fire support of infantry and tanks in battle. A peculiarity of its mechanism is its provision with an engine by which it moves on the battlefield, negotiates small obstacles and changes fire positions. Over large distances (on a march) it is towed by tractor.

Lately, the interest to auxiliary propelled guns increased. Specialists came to the conclusion that it is advisable to use such guns when fighting on broken and difficult ground. In the late 1960's and early 1970's the USA, the FRG, Britain and Italy jointly developed a field auxiliary propelled gun-howitzer — the FH-70, capable of moving with a speed up to 10 km/h.

Provision of the gun with an engine opens great possibilities for reducing the time spent on switching from travelling to firing position and vice versa and on aiming it at the target, and also for automation of loading and reloading.

Research is proceeding in the field of increasing the life of gun barrels. Main attention here is concentrated on the development and use of the technology of their production and processing.

No small attention is paid to developing the self-propelled artillery. It is considered to meet most fully the

demands of modern warfare. The main trends in its development are the following: further strengthening of fire power of guns; intensification of mechanisation and automation of weapons; increased armour protection with simultaneous reduction in overall weight and improvement of buoyancy and air transportability.

Salvo-firing rocket systems have been intensively developed. This is due in particular to the fact that they are capable of achieving high fire density in the shortest time and of destroying large groupings of the enemy manpower and equipment by powerful fire blows.

Rocket launchers, though inferior to cannon artillery in accuracy of fire, are nevertheless able not only to increase fire density but can also be used for carrying out a number of independent fire missions. For example, such a shortcoming of rocket systems as great dispersion of shells relative to the aiming point can under certain conditions become an advantage. It provides the possibility to carry out in a very short time distant mining of the terrain both in front of the positions of defending friendly troops and in the depth of the enemy positions. Using special shells, antipersonnel and antitank mines, one can produce almost impassable zones and sectors and thus essentially limit manoeuvre and movement of enemy forces. Rocket launchers can also be used for distant demining of the terrain and making gaps through large mine fields.

In recent years there has been a tendency to use the high manoeuvring qualities and a fire density of rocket artillery to fight tanks and enemy mechanised equipment. If special ammunition is used fire can be effective throughout the entire firing range. The use of rocket launchers for firing from covered positions reduces their vulnerability.

According to the foreign press two types of ammunition — of active and passive action — have been worked out for the West German rocket launcher "Lars." Ammunition of the first type is intended for distant mining. It consists of cluster warheads equipped with combat elements (mines). The cluster bursts at a definite altitude over the target and the mines are scattered over a large area.

In the ammunition of the second type each combat element is planned to be provided with a system of active homing. After being expelled from the cluster over the target area (for example a group of tanks) the combat elements of the rocket launcher turn by means of stabilisers with their head in the direction of the earth. The homing system switches on and after locking on the target the system corrects the further flight and approach of the combat element to the target.

Still greater recognition is given to the idea of creating artillery capable of hitting the target with the first shot. According to military specialists the creation and use of such a weapon can involve essential changes in the principles of use of artillery in warfare. Modern battle is characterised by mass employment of tanks and other moto-

risied and mechanised equipment. The use of similar systems of weapons for their destruction may prove sufficiently effective.

Today great attention is paid to improving artillery ammunition. The main directions of further development in this field are: unification of shells and mines; increase of power; increase of range; creation of highly destructive ammunition.

Unification makes it possible to introduce a unique technology of production of many assemblies and components of various types and calibres of ammunition, to reduce the assortment of articles and to improve their quality.

The power of ammunition is increased, for example, by creating shells and projectiles with ready destructive elements such as arrows and other killing elements. Thus, a 155-mm shell has been designed containing 195 hollow-charge fragmentation elements which scatter when the shell bursts and can penetrate armour 60-70 mm thick.

Increase in the range is being achieved by creating shells and mines of an active-reactive type. Such a projectile is provided with a solid-propellant rocket engine which switches on after the shell leaves the bore and increases the range of fire by 20-100 per cent.

An important direction in this field is to produce ammunition with new destructive characteristics. According to the foreign press, the USA is developing a new active-reactive shell to replace the organic nuclear shell for the self-propelled howitzer.

Work is also going on abroad on the neutron type ammunition whose destructive effect is made by the flow of fast neutrons generated during the blast at a distance up to 800-900 m from the ground zero. At the same time the shock wave and thermal radiation have only half that range.

Intensive work is being carried out to create ammunition of the so-called volumetrical explosion, filled with various hydrocarbon fuel-explosive mixtures. When such a shell explodes, an aerosol cloud appears which then blows up and creates a powerful shock wave. On the frontage along which the shock wave spreads the excess pressure reaches 20-25 kg/cm², which destroys most solid structures. When firing a volley with such ammunition the 30-barrel rocket launcher can make a breach 8-12 m wide and 250-300 m deep in a mine field.

Methods are being developed for using metallic uranium in ammunition. Shells with an armour-piercing core of depleted uranium have already appeared. The special feature of the core's action is that when it strikes armour it instantly heats to an extremely high temperature because of the explosive-like reaction of oxidation of the uranium by the oxygen in the air. Such shells possess high armour-piercing ability and this is evidently the reason for the great attention to the study of their capabilities.

Thus, even a brief analysis of some tendencies in the development of artillery systems testifies to the fact that qualitative changes are taking place in this field.

[photo caption]

The D30 122-mm howitzer, a gun with an all-round fire, is intended for fighting enemy manpower and fire weapons, destroying fortifications, making gaps in mine fields, screening or illuminating the terrain and carrying out many other specific missions.

COPYRIGHT: "Soviet Military Review", No 10, 1981

CSO: 1812/27

PERCEPTIONS, VIEWS, COMMENTS

CLASS ORIGINS OF WARS DISCUSSED

Moscow SOVIET MILITARY REVIEW in English No 10, Oct 81 pp 47-49

[Article by Maj Gen S. Tyushkevish, D. Sc. (Military): "Causes and Sources of Wars"]

[Text]

Marxism-Leninism defines wars as a historical, class phenomenon. Wars are always the consequence of deep socio-economic processes occurring inside an antagonistic society. The sources of wars are rooted in exploiting society itself, based on private ownership and oppression of the working people.

In the present epoch the fundamental cause of wars and military conflicts continues to operate. It is "built" in the economic relations of the present-day monopoly capitalism, in its social nature. V. I. Lenin's words about imperialism that "by virtue of its fundamental economic traits," it is "distinguished by a minimum fondness for peace and freedom, and by a maximum and universal development of militarism" are still valid. The main source of wars resides precisely in imperialism, in its economics and politics.

The history of world and local wars unleashed by aggressors shows that the outbreak of every concrete war is determined by a whole range of causes. These include general causes which characterise the economic and political relations in antagonistic socio-economic formations, and specific causes rooted in the economic and political contradictions inherent in any concrete antagonistic society. There is still another type of causes which give rise to wars — particular causes, arising from the aggregate of objective and subjective factors under definite conditions.

The Marxist-Leninist interpretation of the sources of wars and their essence is being constantly attacked by Western ideologists and their opportunistic allies. They have produced various theories and conceptions in an attempt to whitewash imperialism in the eyes of mankind and to prove its "innocence" of the unleashing of war. This is manifest, for instance, in their efforts to apply biological laws to so-

cial life, to prove that irrational forces govern the destinies of people and the entire universe, to ascribe wars to the operation of so-called "natural" factors, such as racial distinctions and geographical circumstances, to assert that wars are not the product of imperialist policies, but of the subjective rational activity of leaders of certain parties and governments, which does not depend on socio-political relations; that wars are brought about by the personality of statesmen, diplomats and intelligence agents... In the last few years broad publicity has been given to theories stating that war is caused by man's aggressive nature, his war-like psychology, "fighting instinct," "desire for death" on the battlefield. Some Western ideologists claim that the causes of war lie in scientific and technological progress, in global problems, such as the relations between man and the environment and the need to control births.

All these conceptions give a distorted explanation of the causes of wars. Insofar as the social aspect is concerned, they are characterised by flagrant anti-communism and with respect to the theoretical aspect by an idealistic, metaphysical approach disguised by pseudoscientific terms. As a rule, they are not used separately, but in close junction with one another.

In the recent period bourgeois propaganda has been attempting to revise the results of the Second World War of 1939-45, the reactionary imperialist circles have sought to aggravate the international situation and resume the cold war. In this connection the West has put into circulation a large number of doctrines and theories distorting the causes and sources of wars. In most cases they substitute anti-Soviet inventions for the truth. For instance, in somewhat revised form they give currency to the old allegation that soon after Soviet power was established "the possibility of using

the Red Army to spread revolution to other European countries" was discussed. Such totally unsubstantiated allegations are now used to spice the inventions about the "communist danger" and the "Soviet threat."

This method is by no means new. Ribbentrop, Hitler's foreign minister, spoke about the war against the USSR being a "preventive" war to justify Nazi Germany's predatory policy. However, these inventions could not stand against historical truth. Born out of the capitalist system, the Second World War was a continuation of the struggle of the main imperialist powers, for world domination. This is an objective fact that cannot be concealed.

Distortion of the true causes of the Second World War, in particular, is designed to exonerate imperialism in the eyes of history, to absolve it of the crimes it committed, of the millions of human lives it destroyed, of the tremendous material losses and spiritual damage it inflicted on humanity. The bourgeois propaganda machine is trying to prove that the present policy of imperialism designed to impose the arms race on the world, to increase international tensions and speed up preparations for a new war is a "forced" policy.

Of course, the new balance of world forces in favour of socialism that has taken shape since the Second World War has made it difficult for imperialism to use war as a means for securing its reactionary ends. However, though its positions have become weaker, this does not mean that it has become less aggressive. As in the past imperialism is still the source of all wars in the present epoch. This is conditioned by a whole range of facts.

In the present historical contention between the two socio-economic systems imperialism is losing its positions, while socialism is vividly revealing its superiority. In this context imperialism is attempting to delay its departure from the historical arena and has still not abandoned hope of regaining its positions with the help of armed force. Further, the general crisis of capitalism is increasingly aggravating the contradictions inherent in the system. New centres and seats of imperialist rivalry are taking shape. Seeking a way out of the crisis, imperialism has been staking on increased militarisation of society and on the arms race. This emphasises the potential threat of war. Another reason why imperialism is so aggressive is that it has not become reconciled to the collapse of the colonial system. Doing its utmost to influence, as in the past, vast economically and strategically important regions and to strangle the mounting movement for national liberation, imperialism has been resorting to neo-colonialist methods, kindling military conflicts wherever it could and supporting extreme reactionary forces. Both before and since the war the imperialists often flagrantly intervened in the internal affairs of other peoples, violated their sovereign rights in their

fight for freedom and independence. In the last few years alone US imperialism has resorted to such intervention, threatening to use or actually using armed force. For instance, it had recourse to such action in Indochina, in the Middle East and in the Western Hemisphere.

Today the aggressive ambitions of the imperialist countries are above all spearheaded against the socialist states, the world working class movement and the struggle of peoples for national liberation. In its contention with socialism, in its struggle against the entire movement of the working people for emancipation and of nations for national liberation imperialism is staking on armed force as the main instrument of its policy. It employs its armies to inhibit social progress all over the world, to enable the exploiters to continue to grow rich at the expense of the people.

Recent developments confirm the above. They have shown that the threat to peace and security of peoples continues to exist. Among the statesmen and political leaders in the capitalist countries there are quite a few who wish to act in the spirit of the cold war, who rely on force and dictate in international relations. This is particularly true of US ruling circles. It is they who initiated the all-out arms race and worsened the political climate. And not only in Europe, but also all over the world.

The programme of the mounting US war effort is illustrative of this. In the fiscal year of 1981-82 US military spending will reach the astronomical figure of more than \$ 226,000 million which is far above the initial request of the Washington Administration.

The purposefully militaristic course is evident in other actions of the USA and its NATO allies. Take, for instance, the attempts to extend NATO's sphere of operations, substantiated by the so-called doctrine of global action, the high degree of combat readiness of NATO's armed forces, the deployment of armed forces in potential theatres of military operations, outfitting of these forces with vast quantities of military equipment. It is also confirmed by the series of military manoeuvres of unprecedented scope conducted by NATO's combined armed forces in Europe and by US imperialists joining hands with the Peking hegemonists and other reactionaries all over the world.

To divert the attention of the masses, to disguise their aggressive course, the imperialist ideologists and politicians are sowing fear, bias, lies and hatred among countries and peoples. They raised a tremendous hullabaloo over the internationalist action taken by socialist states, Communist and Workers' Parties distorting the reasons for such actions, their essence and consequences. The hysterical campaign against the Soviet Union's internationalist support to friendly Afghanistan at the request of its lawful government entirely in keeping with the terms of the treaty signed by the two countries and in conformity with the UN Charter is an example of this. Working hand in hand with anti-Communists of

various countries, including Moslem states, and with Peking, US reactionary politicians have been building up tensions over the so-called "Afghan question" and fanning war psychosis. Gangs of terrorists equipped with US, Pakistani and Chinese weapons are being infiltrated into Afghanistan. The counter-revolutionaries have been making broad use of the tactics of intimidation, blackmail, sabotage and assassination.

Imperialist propaganda has spared no pains to spread the myth about a "Soviet military threat." It uses it with the now fashionable "terrorism." The imperialists now call the mounting struggle of the peoples for liberation, for peace, against the threat of a new war "terrorism." More than that, they have accused the "hand of Moscow" of directing it. However, these and other such allegations are totally unfounded. Socialism as a system has never been a source or

cause of wars. The sources and causes of wars are inherent in imperialism. Socialism is inseparable from peace. Therefore, the accusations levelled by bourgeois ideologists and politicians against the Soviet Union and the other Warsaw Treaty countries, blaming them for the arms race, aggravation of international tensions, building up "military superiority over the NATO countries" and constantly increasing their armed forces on the European continent, are nothing but sheer slander and invention.

In actual fact neither the Soviet Union nor the other countries of the socialist community seek to secure military superiority. In the Report to the 26th CPSU Congress L. I. Brezhnev said:

"We have not sought, and do not now seek, military superiority over the other side. That is not our policy. But neither will we permit the building up of any such superiority over us."

The Report further states that to try to outstrip each other in the arms race or to expect to win a nuclear war, is dangerous madness. The interests of peace demand that relations between states with opposite social systems should be built on a fundamental principle that would rule out military superiority of one state over another: preservation of military-strategic equilibrium is an obligatory and necessary principle for the preservation of peace.

The Soviet peace programme contains new proposals designed to save the peoples from the threat of nuclear war, and to preserve peace on earth. They stem from the objective historical conclusion drawn by the CPSU and other fraternal parties after the war. The conclusion is that war cannot and should not serve as an instrument for settling international disputes. Wars as a means to secure political ends should be eliminated from international relations. A new world war is not inevitable. It can and should be pre-

vented. The change in the balance of world forces in favour of peace, democracy and socialism and active struggle for the prevention of war have already made it possible to break the tragic cycle: world war — brief peaceful respite — another world war. Additional factors contributing to this line will improve the possibilities for preventing the outbreak of another world war.

The new Soviet proposals are comprehensive. They cover a wide range of questions. They combine political and military measures designed to accomplish tasks of primary importance. For instance, the proposals about preserving the military-strategic equilibrium that has taken shape between the USSR and the USA, between the Warsaw Treaty Organisation and NATO, which objectively helps preserve peace are such proposals. This is also true of the measures for building up trust in the military sphere and for considerably extending the zone in which such measures could be applied. The USSR is prepared to extend these measures to the entire European part of the country, provided the Western powers correspondingly extend the zone of confidence-building measures too. Another promising region for such useful steps could be the Far East. Such powers as the USSR, China and Japan are neighbours there. In addition, there are US military bases in the region. The USSR is prepared to conduct concrete talks on confidence-building measures in the Far East with all countries concerned. Limitation and reduction of strategic arms is extremely important. The USSR is prepared to reach agreement on the limitation of deployment of new submarines: the US Ohio type and Soviet submarines of a similar type. At the same time the Soviet Union proposes to ban the modernisation of existing and development of new ballistic missiles carried by these submarines. In Europe the Soviet side proposes a moratorium on the deployment of new medium range nuclear missiles both by NATO and the USSR, i. e. to freeze quantity-wise and quality-wise the existing level of such weapons, including, of course, the US forward-based missiles in this region.

These and other measures can help end the arms race, resolve the more serious and dangerous conflict situations without the use of armed force. Everything now depends on the West. However, the West is not at all in a hurry to reply to the proposals.

Today factors have emerged which are obstructing the efforts of the most aggressive and adventurist elements to unleash military conflicts. And these factors are becoming increasingly potent. The countries of the socialist community, the international communist and working-class movement, the national-liberation movement and mass peace movement form a powerful antiwar force. The balance of world forces with its qualitatively new features is steadily changing in favour of socialism, peaceful cooperation and progress. The growing might, mounting activity and prestige of the USSR and other countries of the socialist community, and the expansion of their defence capacity are a

guarantee of peace and the sovereign rights and freedoms of peoples, a safeguard against imperialist intervention.

The proponents of the anti-human concept of the eternal and inevitable character of wars are profoundly wrong. Wars can now be prevented. However, this is by no means an easy task. Although the possibilities of aggressive imperialist forces have been considerably curbed, the nature of imperialism remains unchanged. The enemies of détente and disarmament still have vast resources at their disposal. Therefore, all peace lovers should exhibit high vigilance and strengthen their solidarity. There is no task more important than that of defending and saving peace.

COPYRIGHT: "Soviet Military Review", No 10, 1981

CSO: 1812/27

PERCEPTIONS, VIEWS, COMMENTS

ARTICLE VIEWS U.S., NATO MILITARY 'INTENTIONS'

Moscow SOVIET MILITARY REVIEW in English No 10, Oct 81 pp 50-52

[Article by Maj Gen N. Gusev, D. Sc. (Philosophy): "Imperialism--A Source of War Danger", under the rubric "International Affairs"]

[Text]

Imperialism is guilty of unleashing two world wars, hundreds of local wars and conflicts. World War I (1914-18) broke out as a result of the uneven development of the capitalist countries and the consequent conflict of imperialist interests. The war involved 38 states with 1,500 million population, or three quarters of the world population. Over 10 million were killed. The material damage was enormous. The direct war expenditures alone amounted to \$ 208 thousand million — 10 times the sum spent in all the wars during the more than a century after the Great French Revolution.

World War II (1939-45) was also caused by the contradictions between the imperialist states. It resulted in more than 50 million killed and 90 million wounded, including 28 million crippled. Over 2 million civilians died in bomb raids.

Especially heavy losses were suffered by the USSR, which was a victim of nazi aggression and carried the main burden of fighting and defeating fascism. The Soviet Union lost 20 million people. The aggressor burned and destroyed 1,710 cities and towns, 70 thousand villages, 32 thousand industrial enterprises, about 100 thousand state and collective farms.

After World War II imperialism continued to build up its military and economic potential in response to its social and political setbacks in world affairs as the colonial empires crumbled and an increasing number of countries turned towards socialism which is making great strides forward.

On the basis of the Leninist definition of the reactionary nature of imperialism the CPSU and

fraternal Communist Parties carried out a comprehensive assessment of modern imperialism. A profound analysis of the balance of class forces in the present-day world was made at the 26th Congress of the CPSU, which warned that imperialism had not given up hopes of reversing the course of history and turn the tables on socialism. The nature of imperialism remains the same, nor can it change, for its evolution implies growing reaction and aggressiveness.

Influential capitalist circles still entertain hopes of robbing socialism and national-liberation movement of their gains. Their main objectives are the USSR and the socialist countries. These forces whip up the arms race, grossly interfere in the domestic affairs of other countries, seek to discredit the détente policy and peaceful initiatives of the Soviet Union. This trend had been especially manifest in the citadel of imperialism, the USA.

Americans are constantly showered with lies and slanderous allegations concerning the "growing Soviet military threat" which "jeopardises the very existence of the United States." On the pretence of countering the "Soviet threat" US imperialism is building up its war machine, sending new reinforcements to Western Europe, setting up new war bases and military installations overseas, forming the rapid deployment force and so on. The US military build-up in the Indian Ocean and the Middle and Near East has been accompanied with outbursts of anti-Soviet propagandist hysteria, like, for instance, the present hullabaloo over Afghanistan.

There is neither "intervention," nor "aggres-

sion" on the part of the USSR against Afghanistan. On the contrary, the Soviet Union assists the new Afghanistan at the request of its government, in defending its national independence, freedom and dignity against armed foreign aggression.

The imperialist-minded leadership of the USA has been channelling national economic and technological development towards one ultimate goal — military superiority, growing into a kind of maniacal urge for world supremacy.

The common interests of US officialdom and the arms manufacturing monopolies encourage the development of the military industrial complex and escalation of arms production on an unprecedented scale. The US war potential has been growing as never before. For instance, US military spending, which during World War II totalled \$ 224 billion, is likely to reach 1,500 billion during the coming five-year period.

The adventurist goals and plans, like the "new war doctrines" are reflected in the US-sponsored imperialist military alliances. The Pentagon spares no effort to reinforce the main striking bloc — NATO. In 1949, the year of NATO set-up, the total war budget of the NATO countries amounted to \$ 18,700 million, in 1981 the US defence budget alone is to come to the tune of \$ 226,000 million.

Today the NATO forces are definitely offensive and aggressive. The strength of the NATO forces deployed in Europe at present exceeds three million. Total NATO strength, according to London's International Institute for Strategic Studies, is 5 million, including 80 divisions, 440 medium-range and tactical missile launchers, over 17 thousand tanks, 8 thousand combat planes (including 2 thousand nuclear bomb carriers) and nearly 1,500 combat ships. In addition the US has more than 8 thousand nuclear warheads in its European depots. The European theatre of operations is considered the primary area of military confrontation, which is to be the decisive battlefield deciding the course and outcome of war against the European socialist countries.

Debate in the Pentagon on the practicability of a pre-emptive strategic strike against Soviet military objectives under certain circumstances has recently become public. The key motif of such concepts is a desire to destroy the USSR in a Blitzkrieg through a sudden massive initial strike. In his congressional statement former US Defence Secretary H. Brown admitted that the emphasis

on modern fast moving and intensive military operations was quite natural. The attacker generally tries to avoid prolonged operations.

The offensive and aggressive nature of the NATO forces has manifested itself more than once. During the past two or three decades they took part in criminal wars against the Korean People's Democratic Republic and the Democratic Republic of Vietnam, they carried out direct intervention in Guatemala, the Dominican Republic and other states in Central America, attacked Cuba, Laos, Kampuchea, etc. In the post-war years alone the USA committed their armed forces 215 times in different parts of the globe in order to reach their political objectives. The US Administration alerted the armed forces innumerable times and threatened directly or indirectly to use strategic nuclear weapons 19 times.

"Directive 59" signed last year serves the same purposes and admits the possibility of a "limited nuclear war." It provides for selective nuclear strikes on the opponent's strategic forces and lines of communication. This would allegedly make it possible to disarm the opponent and preserve the American strategic nuclear forces. This actual state of affairs cannot be camouflaged by any propagandistic "red herring" about a "Soviet threat." The NATO armed forces, especially the armed forces of the USA, present a real menace to peace and security of nations. This menace is growing as Washington proceeds with its neo-colonialist policy and builds war bases and advanced posts in foreign territories spearheaded against the national-liberation movements.

Especially menacing are the US and NATO plans to build up armaments and armed forces in Western Europe. The NATO Council adopted a decision in December 1979 to deploy some 600 new medium-range nuclear missiles in the West European countries. The NATO strategic planners assert that the plan is intended to create an "additional deterrent" to a possible Soviet attack.

Against this gloomy political background the Soviet proposals of October 1979 supported by the Warsaw Treaty countries evince a genuine striving towards military détente in Europe. The Soviet Union proposed to reduce on a mutual basis the scale of field training exercises to 40 or 50 thousand troops and to increase the warning time. It was also proposed to extend the warning obligation to large-scale air and naval manoeuvres planned in direct proximity to the territorial waters of the Helsinki Act signatories as well as to large troop movements.

Recently the Soviet Union made yet another big step to meet the insistent wishes of the Western countries by extending the zone in which the agreement would be effective to all European USSR, provided, of course, the Western countries assume similar obligations concerning their territories. However, as was often the case before, some circles in the West welcomed only the Soviet part of the deal, withholding any reciprocal move on their part. Genuine trust is only possible when both parties act with reciprocity and undertake equal commitments excluding unilateral military advantage. All the elements of the strategic balance must be taken into account: both the land forces, and also the air force and the navy, of the European countries, the United States and Canada. In other words the agreement must embrace all the factors affecting the balance of forces in Europe.

The 26th Congress of the CPSU described as extraordinary the problem of limitation and reduction of strategic arms. The Soviet Union expresses its readiness to resume the SALT talks immediately on the basis of equality and equal security and preserving the positive results reached before. The USA and their allies, especially the nuclear powers, cannot ignore this clearly expressed readiness to continue the process of limiting strategic arms which is vitally important for all nations, including the USA. Another Soviet proposal to refrain from deploying new US and similar Soviet nuclear submarines and to ban modification of existing and development of new ballistic missiles for these submarines is also aimed at curbing the race in the most dangerous types and systems of rocket and nuclear weapons.

Yet the USA and the other NATO states continue their blocking tactics in respect of negotiations that could limit the arms race in Europe. Ever since 1973 fruitless talks have been going on in Vienna on reduction of arms and armed forces in Central Europe. And this — despite a good dozen constructive proposals made by the Warsaw Treaty states to meet the Western party half way. L. Brezhnev warned the Western leaders of the grave responsibility they assume by dragging these talks out while proceeding to build up their military potential; the Soviet Union, he declared, will have to take this fact into consideration.

The object of the new proposal made by the Soviet leader at the 26th CPSU Congress is to break the vicious circle in world political life

which brings about counteraction of one side to any action of the other side. The essence of this proposal is to impose a moratorium on the deployment of new medium-range missiles in Europe by both the USSR and NATO states. That means to freeze these weapons systems at their present levels both in numbers and quality, including naturally the US advanced missile installations in Europe. The moratorium could come into effect immediately upon the start of negotiations on this problem and remain in force until an appropriate treaty on limiting, or better still, reducing such nuclear weapons in Europe is concluded.

This proposal, like the other Soviet peace moves, was welcomed with understanding and approval in Europe by the broad public and sober-minded politicians who realise the need to curb the arms race and to stop the world sliding towards a nuclear holocaust. "The moratorium proposed by the Soviet leader, Leonid Brezhnev," the *Westfälische Rundschau* states, "should be used to begin talks on nuclear missiles in Western Europe."

A serious menace to world peace looms from the military rapprochement taking shape between the NATO warhawks and the Peking rulers. The frequent mutual visits give rise to public concern about the dangerous consequences of the US-Chinese accord on preserving "parallel strategic interests" by mutual effort. Peking has been courting NATO for quite a long time. Its policy is aimed at worsening international relationships and is in line with the policy of imperialism. The Peking strategists are attracted by hopes of American military equipment and a military alliance with the USA and of using the US war potential to implement their hegemonistic plans.

In this situation the CPSU and the Soviet Government are faced with the necessity to maintain the defence potential of the Soviet state and the combat readiness of the Soviet Armed Forces at the necessary level. The Soviet Army has been at all times ready to perform its important duty — to guard the peaceful labour of the Soviet people, to be the bulwark of world peace.

COPYRIGHT: "Soviet Military Review", No 10, 1981

CSO: 1812/27

PERCEPTIONS, VIEWS, COMMENTS

VIEWS ON U.S. DEFENSE BUDGET

Moscow SOVIET MILITARY REVIEW in English No 10, Oct 81 pp 53-54

[Article by Lt Col A. Dilanyan: "Under Cover of a Myth", under the rubric "International Affairs"]

[Text]

WORLD POLITICS at the contemporary stage are characterised by a sharp class struggle between two opposite trends. The USSR and other countries of the socialist community are firmly and consistently pursuing a course aimed at curbing the arms race, strengthening relaxation and peace, defending the sovereign rights of nations.

Quite different is the policy of the imperialist states headed by the USA. They try to undermine détente, to suppress the national-liberation movement, to intensify preparations for a new world war. In the Report of the Central Committee of the CPSU to the 26th Congress it was pointed out that at the present stage the aggressiveness of imperialists' policy and in the first place of the US imperialists has sharply increased. Particular attention was paid in the report to the fact that in the present period the militant imperialists have increased the activity of their propaganda media and intensified their attempts to exert a corrupting influence on the peace-loving public and that therefore it is particularly urgent to wage a relentless struggle against imperialist ideology and to expose its aggressive essence.

In order to disguise its hegemonistic intentions the big monopoly bourgeoisie is resorting to various ideological diversions and to outright calumny against the activity of the CPSU and the Soviet Government. Imperialist propaganda in cooperation with the Peking chauvinists and aggressors, is reviving the time-worn myth of a "Soviet military threat," trying to distort Soviet foreign policy, to slander socialism and to beautify imperialism and its predatory policy and practice.

Propagandists of the fiction of a "Soviet military threat" try, first of all, to scare people with their assertions that the USSR is striving to achieve military superiority over the West. The falseness of this argument is absolutely obvious. The whole of progressive humanity knows full well

that it is the Soviet Union that is making persistent efforts to maintain the equilibrium of military forces between socialism and capitalism which has taken shape in the contemporary conditions. Speaking at the 26th CPSU Congress L. I. Brezhnev underscored: "The military and strategic equilibrium prevailing between the USSR and the USA, between the Warsaw Treaty and NATO, objectively serves to safeguard world peace. We have not sought, and do not seek, military superiority over the other side. That is not our policy."

On the other hand, the bourgeois ideologists and their militant Maoist accomplices obstinately assert that the equilibrium of forces represents a threat to the West which can be removed only on condition of military superiority over the Soviet Union. In one of his interviews US Defence Secretary C. Weinberger said that it is necessary to demonstrate clearly a determination to strengthen substantially American military might in the field of offensive strategic weapons.

The myth of a "Soviet military threat" provides a good cover-up for the unprecedented growth of military expenditures. In the USA in the 1981-82 fiscal year they will total the astronomic figure sum of over \$ 226,000 million. Foreign experts calculate that one third of the total world military expenditures fall on the USA, though that country has only 5 per cent of the world's population.

The growth of military expenditure places a heavy burden on the working people of the capitalist countries. It is significant that 64 per cent of the US budget is expended for military purposes. While outlays on public health in the USA total less than 100 dollars a year per head, war expenditures exceed 350 dollars.

To carry out its role of world gendarme the USA has over 2,500 military bases and various military installations

on the territories of other states. Nearly 500,000 officers and men serve at these bases. The majority of them — 330,000 are deployed in Europe in immediate proximity to the borders of the USSR and other countries of the socialist community. The USA possesses in Asia and in the Pacific Ocean a wide network of military bases manned by over 142,000 servicemen. There are 10,000 US officers and men on the Bermuda Islands, on Diego Garcia and in Canada. Some 16,000 American servicemen are stationed in the Panama Canal Zone, in Puerto Rico and at Guantanamo. The geography of the deployment of bases convincingly testifies that there is an American threat to the peace and security of the peoples and not a "Soviet threat."

This is also confirmed by the practical actions of the USA and other NATO countries. Historians in the GDR have calculated that during the three postwar decades (1945-75) there were 142 wars and military conflicts on the globe: 5 — in Europe; 44 — in Asia; 29 — in Africa; 33 — in America; and 31 — in the Arab East. The majority of them were engendered by foreign intervention and other military actions of the American imperialists against the forces of the national-liberation movement. During the postwar period the USA used their armed forces or resorted to the threat of their employment 215 times. Fifty-seven times they were on the brink of using nuclear weapon, in some cases against the USSR. As far back as 1948, the Americans elaborated a plan of war against the Soviet Union codenamed "Dropshot." Its authors proposed to drop on the Soviet Union 300 atomic and 20,000 conventional bombs. Then some 250 divisions of the USA and its allies were to invade the USSR. From the North the blow to be via the Kola Peninsula, from the South, via the Balkans.

Bourgeois propaganda resorts to the myth of a "Soviet military threat" every time it is necessary to justify the deployment of new types and systems of armaments. All this is done under the pretence of the necessity to "catch up with" the USSR, to liquidate its superiority over the West in the military field. In fact it turns out later that the USA was not "lagging behind" the Soviet Union at all. Thus, in the 1950s a widespread campaign was launched in connection with the US "lagging behind" the Soviet Union in bombers. Before the campaign was proved groundless, the USA had created the B-52 strategic bomber. During the 1960s-1970s the West raised a hue and cry about a "missile superiority of the USSR," under cover of which more than 1,000 intercontinental missiles were deployed in the USA. Under pretence of a "Soviet military threat" new types of weapons: MX missiles, the neutron and laser weapons, recoverable spaceships for orbiting spy satellites, systems of radar detection, means of missile guidance and others are being designed and produced.

The campaign of West's "lagging behind" in the field of medium-range nuclear missiles which allegedly is upsetting the balance of forces in Western Europe has reached an unprecedented scope in recent years. Its results are well known. It has been decided to deploy qualitatively new US nuclear missiles on the territories of a number of West-European countries. US General Bernard Rogers, NATO Supreme Commander in Europe, speaking in Casteau (Belgium) on the occasion of the 30th anniversary of the creation of the Supreme Headquarters of this aggressive bloc, confirmed once more that his most important goal would be deployment in Europe of 572 US medium-range missiles by the mid 1980s.

The true content of the NATO decision was revealed in the Report of L. I. Brezhnev to the 26th CPSU Congress, "This decision," he underlined, "is no 'response' to any imagined Soviet challenge. Neither is it an ordinary 'modernisation' of the arsenal, as the West would have us believe. It speaks of an obvious intention to tilt the existing military balance in Europe in NATO's favour."

At the same time American propaganda ignores the obvious fact that during the past decade the number of the medium-range nuclear carriers in the European part of the USSR has not increased by a single missile or a single aircraft. As to the new Soviet medium-range missiles they are intended to replace the old ones which have been in service for 20 years and do not upset the military balance in Europe. FRG Chancellor H. Schmidt in a public statement in February this year denied any disruption of the balance of forces between the East and the West. A. Haig, now US Secretary of State, also mentioned the existence of "relative equilibrium and equivalence."

The concrete practical measures concerning this question included the proposal by the USSR to declare a moratorium on the deployment of nuclear medium-range missiles in Europe both by the USSR and the NATO countries. This would make it possible to freeze them quantitatively and qualitatively at their existing level, including, of course, the US nuclear forward based weapons in this area. Declaration of a moratorium on these weapons is not an end in itself. The major task is to conclude in the future a permanent treaty on limitation of nuclear missile weapons and, better still, on their reduction.

The fable of a "Soviet threat" has been taken up also by the Peking leaders who openly form a bloc with the foreign reaction on an anti-Soviet basis and count on forcing international tension up to the unleashing of a new world war. China's hegemonistic course plays into the hands of the ruling circles in the USA, Japan and other countries who are trying to turn to their own imperialist interests hostility of Peking to the Soviet Union and to the socialist community.

Thus, the myth of a "Soviet military threat" aimed at conscious deception of public opinion, serves the enemies of peace as a convenient means for justifying the aggressive policy and practice of modern imperialism and Maoism and the military preparations carried out by them. In connection with this L. I. Brezhnev said at the 26th CPSU Congress: "A war danger does exist for the United States, as it does for all the other countries of the world. But the source of the danger is not the Soviet Union, nor any mythical Soviet superiority, but is the arms race and the tension that still prevails in the world. We are prepared to combat this true, and not imaginary, danger hand in hand with the United States, with the countries of Europe, with all countries in the world."

COPYRIGHT: "Soviet Military Review", No 10, 1981

CSO: 1812/27

END

END OF

FICHE

DATE FILMED

Jan. 4, 1982